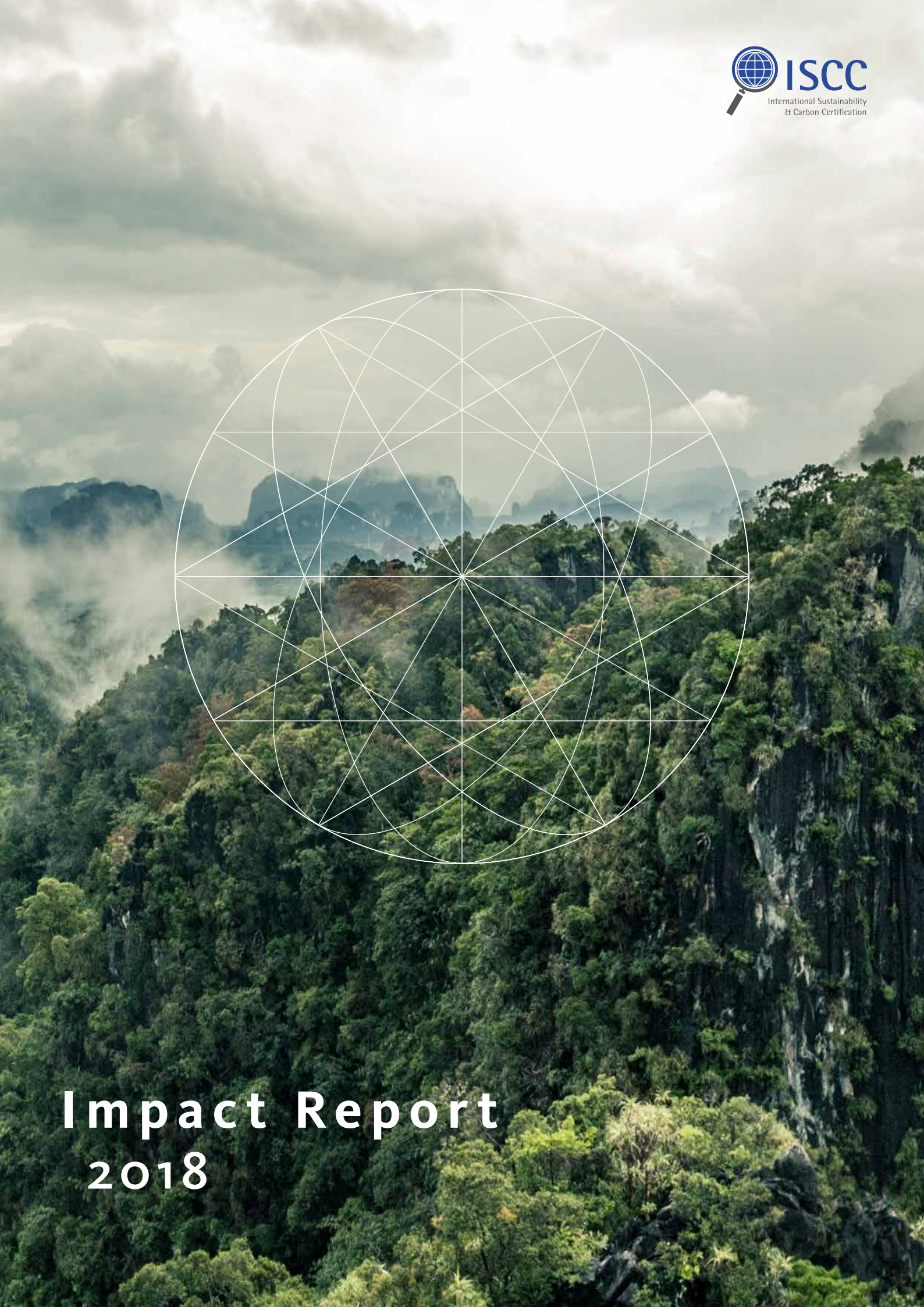
ISCC
International Sustainability & Carbon Certification



Impact Report 2018

IMPRINT

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The continuous improvement of our system based on an ongoing multi-stakeholder dialogue is our highest priority.

If you have any questions or feedback regarding our organisation, our impact or this report, please do not hestitate to contact us.

Contents

II Abbreviations

AAK	AarhusKarlsham
APS	Audit Procedure System
BLE	Bundesanstalt für Landwirtschaft und Ernährung *(German Federal Agency for Agriculture and Food)*
BM	Biomethane Plant
BMEL	Bundesministerium für Ernährung und Landwirtschaft *(German Federal Ministry for Food and Agriculture)*
CB	Certification Body
COF	Central Office (Farms)
COP	Central Office (Points of Origin)
CP	Collecting Point
CU	Conversion Unit
EC	European Commission
EU	European Union
EVI	Enhanced Vegetation Index
FA	Farm/Plantation
FAME	Fatty Acid Methyl Ester
FAO	Food and Agriculture Organization of the United Nations
FFB	(Oil Palm) Fresh Fruit Bunches
FGP	First Gathering Point
FNR	Fachagentur für Nachwachsende Rohstoffe *(Agency for Renewable Resources)*
FOG	Fats, Oils and Grease
FQD	Fuel Quality Directive
GAP	Good Agricultural Practices
GHG	Greenhouse Gas
GMO	Genetically Modified Organism
GRAS	Global Risk Assessment Services
HCS	High Carbon Stock
HCV	High Conservation Value
ISCC	International Sustainability and Carbon Certification
ISEAL	International Social and Environmental Accreditation and Labelling Alliance
ISH	Independent Smallholders
ISO	International Organization for Standardization
LC	Logistic Center
LUC	Land Use Change
MCA	Millennium Challenge Account
METI	Japanese Ministry of Trade and Industry
MT	Metric Tons
NGO	Non-Governmental Organisation
PPP	Plant Protection Products
PO	Point of Origin
RED	Renewable Energy Directive
SAI	Sustainable Agriculture Initiative
SCSs	Sustainability Certification Schemes
SDGs	Sustainable Development Goals
SNV	Netherlands Development Organisation
TR	Trader
UCO	Used Cooking Oil
UN	United Nations
U.S.	United States
WH	Warehouse
WWF	World Wide Fund for Nature
ZEF	Zentrum für Entwicklungsforschung *(Center for Development Research)*

1 Foreword

Gernot Klepper
Chairman ISCC Association

Agricultural commodities that had once been produced and consumed locally have now become globalized to a large extent, as is evident by the tremendous increase in international trade of these goods. This development has benefitted consumers through lower prices for food and bioenergy products, while simultaneously raising questions regarding the exploitation of natural resources in many parts of the world, especially in areas where few public controls over land use and production conditions are in place. On top of this, consumers are usually not aware of the conditions under which the goods they purchase have been produced. The production process often implies negative ecological side effects and adversely affects working conditions of farm workers and other social issues. Consumer awareness about the direct and indirect social and ecological impacts of certain products has led to a number of certification schemes that offer transparency as well as certain quality criteria for the products sold under their label. These labels have been developed predominantly for specific food and final consumer products, such as coffee, tea, bananas, fish, or wood products, respectively. Bioenergy certification first became relevant after the implementation of the *Renewable Energy Directive* (RED) and the *Fuel Quality Directive* (FQD) of the *European Commission* (EC), which has set a number of legal sustainability requirements for the production of biofuels from both bio-based feedstocks and waste and residues.

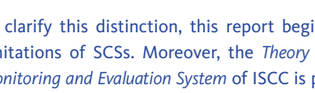
Certification is not a part of the problem but a part of the solution.

Along with the multiplication of new standards, doubts about the impact of *Sustainability Certification Schemes* (SCSs) have increasingly been raised. It is often believed that a solution to the global issues of unsustainable growth can only be achieved by a transformation based on inner, deeply held values. Rather than acknowledging certification to be a supportive part of this process, certification is often considered to hinder these transformations. This means that within the discussion on the impact of SCSs, one needs to manage expectations: SCSs have responsibilities towards their stakeholders and the environment, but SCSs also bear certain limitations. These limitations need to be clearly identified and communicated in order to realize that certification is not a part of the problem but a part of the solution. While certification can deliver numerous benefits to both producers and consumers, there are certain issues that cannot be addressed by certification, but which need to be solved through political interventions with appropriate legal frameworks and effective enforcement.

To clarify this distinction, this report begins by outlining roles and limitations of SCSs. Moreover, the *Theory of Change* as well as the *Monitoring and Evaluation System* of ISCC is presented, followed by approaches and programs of ISCC that are of paramount importance for the quality assurance and continuous improvement of the system. The impact assessment as the main part of the report addresses the scale and outreach as well as impact and effectiveness of the ISCC standard. The analysis draws on data from the internal certificate database, a sample-based evaluation of farm audit reports, ISCC Integrity Program results, as well as on the results of a recently conducted survey among auditors.

Even though ISCC has conducted previous internal impact assessments, this is the first impact report to be published. ISCC acknowledges the fact that questions regarding the effectiveness of SCSs have increasingly been raised among stakeholders and has chosen to respond by publishing this report as a way to define its roles and objectives while increasing transparency towards its stakeholders. In the future, ISCC aims to publish such reports on a regular basis.

By certifying bioenergy, food, feed and other bio-based products in both the European and the Non-European market, we are striving for a world where biomass and other raw materials are produced in an environmentally, socially and economically sustainable manner. And while not claiming that sustainability certification is the exclusive driving force for such a movement, we are convinced that it is a significant and necessary contribution to it.



Gernot Klepper

2 Executive Summary

ISCC stands for *International Sustainability and Carbon Certification* and is a multi-stakeholder initiative which is governed by an association of more than 100 members. It began operations in 2010 and has issued more than 20,000 certificates over the past eight years. Currently, more than 3,300 companies in 100 countries are ISCC certified.

ISCC certification is globally applicable and covers all types of agricultural, forestry and other raw materials. This includes waste and residues, and other feedstocks of biological origin (e.g. lignocellulosic material, non-food cellulosic material and algae) and non-biological origin.

ISCC offers two certification schemes to address different market requirements. ISCC EU can be applied to demonstrate compliance with the legal requirements of the *Renewable Energy Directive* (RED) and *Fuel Quality Directive* (FQD) for all Member States of the *European Union* (EU). ISCC EU has been recognized by the EC as one of the first voluntary schemes in July 2011. In 2016, ISCC was re-recognized by the EC for another five years.

The ISCC PLUS scheme is a voluntary certification for non-regulated markets and covers food, feed and industrial applications on a global scale, as well as biofuels for the Non-European markets. For instance, in 2018, ISCC PLUS has been recognized by the Government of Japan for the verification of compliance of imported biofuels with mandatory sustainability requirements. ISCC is also in compliance with certification requirements of the *Liquid Fuel Supply Regulation* of Queensland, Australia, as of January 2017.

Beyond the verification of legal requirements, one of the major impacts of ISCC is a shift in perception towards sustainability through its comprehensive requirements for farms and plantations, as well as all other elements along the value chain. In particular the implementation of the RED and the FQD has resulted in an increasing awareness of the importance of sustainable production in biomass sourcing regions. At the start of ISCC operations, it proved difficult to convince System Users to go beyond legal requirements. Nowadays, however, system users accept the system requirements and implement more and more voluntary corrective measures, according to sample-based evaluations of farm audit reports and a survey among auditors. Next to raising awareness, ISCC certification also shows considerable significance in combating deforestation, loss of biodiversity and carbon stocks, and *Greenhouse Gas* (GHG) emissions. The conversion of land with high biodiversity value or high carbon stock for the production of biomass is not allowed. Thus, ISCC certification promotes deforestation-free supply chains. Furthermore, ISCC requires minimum GHG savings to be achieved. These requirements do not only cover European legislation but also enhance awareness and promote continuous emission reduction.

Another significant development during recent years is the intensified movement from agricultural and forestry raw materials towards waste and processing residues. Companies that process municipal solid wastes, landfill gas or used car tires into valuable products are using ISCC for proving compliance with sustainability requirements. This way, ISCC fosters the transition towards a circular economy and contributes to decreasing competition of conventional feedstock with food security.

This is confirmed by changes in certificate holders with a growing percentage of companies that are dealing with waste and processing residues. At ISCC today approximately 50% of System Users are active in this area having supplied lately more than 7 million tonnes of ISCC certified waste and residue feedstocks as *used cooking oil* (UCO) or animal fat to market. In the same timeframe, over 60 million tonnes of agricultural raw material covering oil and sugar crops as canola, soy and sugarcane were produced under the ISCC sustainability requirements.

We also support the *United Nations* (UN) *Sustainable Development Goals* (SDGs) with ISCC. In this, ISCC is partnering with the *Food Security Standard* (FSS) project by WWF *(World Wide Fund for Nature)*, Welthungerhilfe *(German World Hunger Aid)* and ZEF *(Zentrum für Entwicklungsforschung / Center for Development Research)*. Intending to integrate Food Security entirely into the standard, ISCC has already conducted first pilot audits in Central and South America.

While acknowledging certain limitations, sustainability certification can also be economically beneficial for producers all around the globe. For instance, research has shown that certified smallholders are often found to have higher yields and farm gate prices than non-certified ones, benefitting from training activities and the resulting implementation of *Good Agricultural Practices* (GAP) associated with certification. Considering the fact that smallholders operate the majority of the world's farms with about one-tenth of the total acreage, integrating and supporting these small-scale farmers is an essential factor when attempting to create impact through SCSs. Therefore, ISCC has developed the *Independent Smallholders* (ISH) certification approach and issued the world's first ISCC smallholder certificate in March 2018.

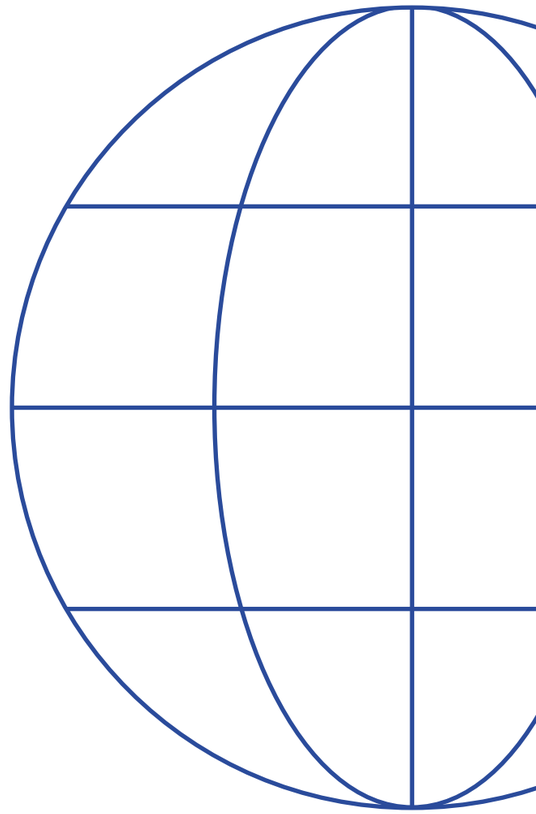
ISCC certification promotes deforestation-free supply chains on a global scale.

With more than 70 trainings organised since the start of operations in 2010, ISCC ensures continuous capacity building in the understanding of system requirements, land use change assessment and GHG emission calculation. The system requirements are aligned to the SDGs and are continuously enhanced in a multi-stakeholder dialogue. All new system documents and other fundamental changes are made subject to public consultation via the ISCC website, aiming to ensure consistent transparency for stakeholders. The multi-stakeholder dialogue also fosters the continuous improvement of the system. Since 2010, ISCC hosted almost 50 stakeholder meetings in 10 countries with more than 3,000 participants. The meetings cover regional and technical topics and also include the annual Global Sustainability Conference in Brussels.

Even though ISCC is constantly striving to achieve continuous improvements on farms, plantations and at all certified entities along the value chain, such impacts are generally difficult to quantify. Monitoring the compliance of high-profile certification requirements with regard to human and labour rights is particularly challenging. In order to provide as much quantified information as possible, data from the internal certificate database, farm audit reports, ISCC Integrity Program results, as well as the results of a recently conducted survey among auditors were compiled and evaluated for this report to measure the impact and effectiveness of the ISCC standard.

Key findings are that ISCC contributes to increased knowledge and capacity, enhanced agricultural practices and higher GHG savings among others. One auditor stated that ISCC is *"sending a message that deforestation is not tolerated"* and that the avoidance of LUC is one of the greatest impacts ISCC certification is achieving on farms and plantations, especially in Indonesia and Malaysia.

Even though sustainability certification cannot be the exclusive driver of the necessary transition towards an environmentally, socially and economically sustainable future, it contributes significantly to reduced GHG emissions, enhanced agricultural practices, increased transparency along global supply chains and – first and foremost – considerably less LUC on highly biodiverse and carbon-intensive areas around the globe.



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Roles and Limitations of Sustainability Certification

Achieving sustainability in the complex interaction of socio-ecological systems presents a challenge to individuals in terms of consumption patterns, to producers in terms of natural resource management, to traders in terms of purchase decisions, and to governments in terms of securing sustainable growth. They all share the common need to be informed about the sustainability of their activities along the value chain, starting from the use of natural resources down to the final disposal of waste and residues. These activities are however often embedded in widely ramified global supply chains as well as in complex social, political and economic dynamics at the local level.

Certification's primary function is to provide information about the compliance with certain requirements.

In this environment, certification's primary function is to provide information about the compliance with sustainability requirements or the lack thereof to all parties involved. In voluntary schemes, this is a primary driver of change as it grants access to valuable and previously unknown information for both producers and consumers. If a certification standard is required by state regulation such as the RED or the FQD, it supports the implementation of political and economic incentives for more sustainable value chains. Without such regulation, actors lacking intrinsic sustainable values will often not consider certification. In such cases, consumer interests could instead increase demand for sustainably produced products, thus creating a price premium that incentivizes producers to move towards more sustainable practices and seeking certification of their efforts.

However, sometimes the demand side does not create sufficient incentives for supplying the desired quantities. Therefore, in many instances, certified products achieve no price premiums for farmers and are marketed in the same way as non-certified goods. The absence of the benefit of a price premium will make it difficult for producers to manage the additional costs incurred from moving towards socially and environmentally responsible practices (DeFries et al., 2017). As a consequence, certification alone does not support sustainable practices. The positive impact of certification can be strongly improved if regulatory authorities enforce certain standards for which compliance is proven through certification, as it is done in the RED.

Studies on the impact of certifications have identified in many cases positive effects of certification, e.g. on small-scale farming. Millions of smallholders depend on selling their agricultural products for their livelihood but are facing low yields, little income and lack of market access, and so the pressure on land to expand agricultural activities rises continuously. Certification can provide an option to enhance productivity and thus increase income, to raise attention to potential customers and to ease selling products, thereby taking away the need to further expand into forested areas. In these cases, certification does not only provide socio-economic benefits but also reduces deforestation and loss of biodiversity-problems that are major global concerns in the light of climate change.

However, sustainability certification is required only for a small portion of worldwide produced biomass, such as biofuels for the EU market. In addition, voluntarily certified products only cover a small proportion of unregulated markets. The impact of sustainability certification is therefore limited to only a small proportion of agricultural products that enter the food, feed and industrial applications value chains.

In summary, the critique about the limited impact and lack of effectiveness of certification does not take into consideration the limited influence of voluntary schemes and the small share of biomass that is actually devoted to sustainability certification. Often, critics expect more from certification than what it can deliver under current regulatory circumstances. This becomes most obvious in the debate about LUC, in particular the deforestation in tropical areas which are ascribed to the increasing demand for biofuels, despite the simultaneously growing demand for food, feed, and industrial uses. Sustainability certification works on the areas that are certified, but it has only limited influence on unsustainable practices in non-certified areas.

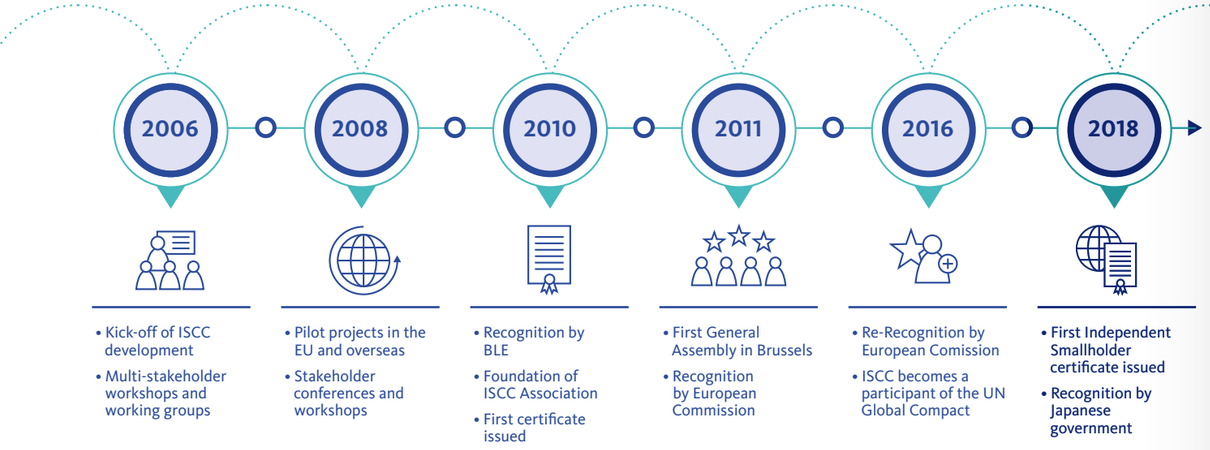
The impact of sustainability certification is limited to only the proportion of agricultural products that enter the verified value chains.

4
ISCC in Brief

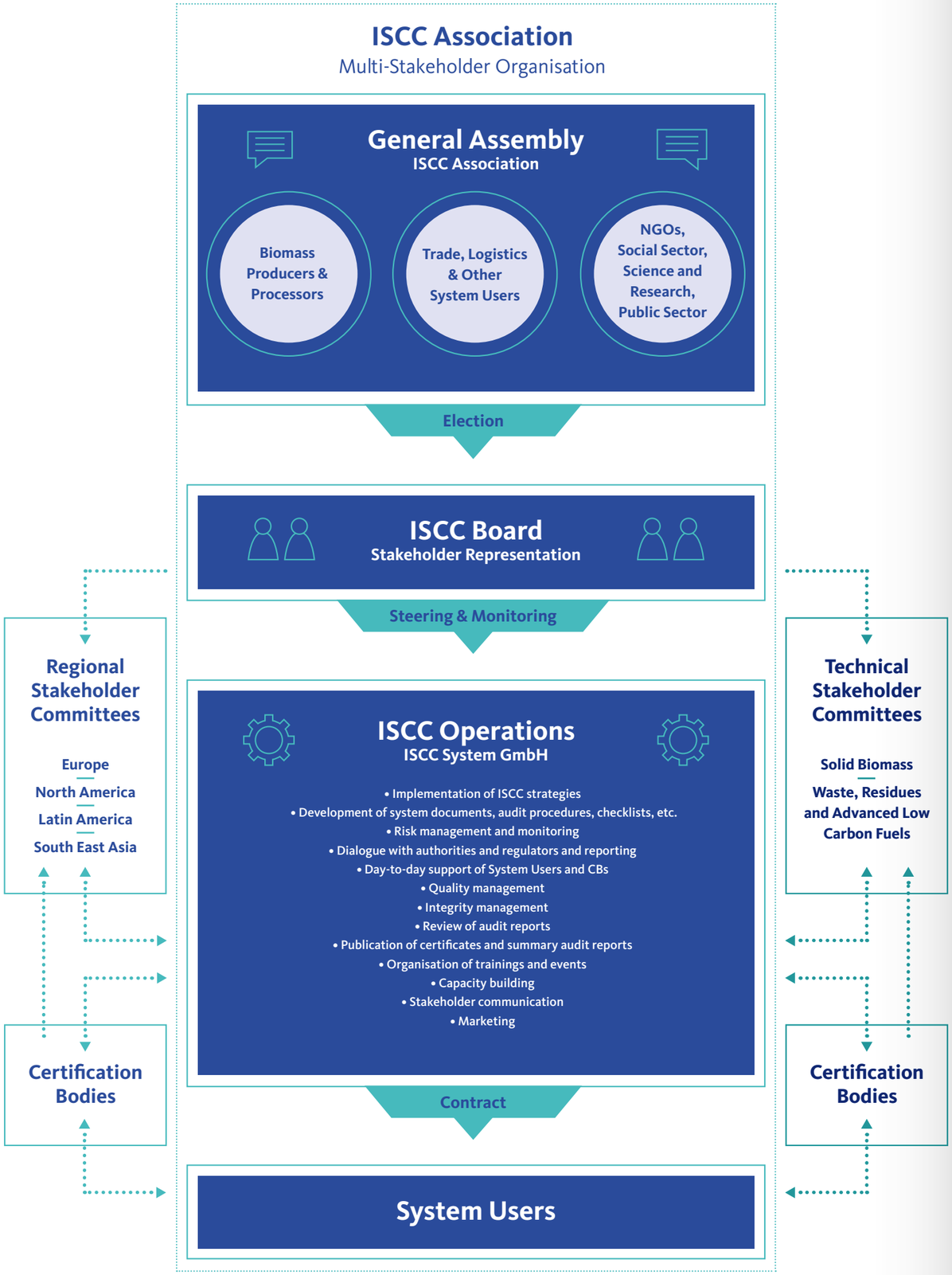
History and Development of ISCC

Starting in 2006, the ISCC scheme was developed in a comprehensive multi-stakeholder dialogue with more than 250 stakeholders, contributing valuable insights in a series of workshops and working groups. The development of ISCC was supported by the *German Federal Ministry of Food and Agriculture* (BMEL - *Bundesministerium für Ernährung und Landwirtschaft*) through its *Agency for Renewable Resources* (FNR – *Fachagentur Nachwachsende Rohstoffe*). After an initial concept phase, pilot projects covering different supply chains were carried out from 2008 until 2010. In January 2010, the *German Federal Agency for Agriculture and Food* (BLE - *Bundesanstalt für Landwirtschaft und Ernährung*) officially recognized ISCC in Germany to prove compliance with the requirements of the German Sustainability Ordinances. At the same time, the ISCC Association was founded in Berlin. Three months later, the first certificate was issued and was followed by another hundred certificates in the same year. In this context, ISCC also established the first two Technical Committees, one for Germany and one for Latin America. During that time, ISCC applied also for recognition with the EC. In February 2011, the first ISCC Global Sustainability Conference and the General Assembly of the ISCC Association took place in Brussels. In July 2011, ISCC was one of the first seven schemes being recognized by the EC. More than 500 companies in almost 40 countries registered with the ISCC System to become certified in 2011. Until now, ISCC has issued more than 20,000 certificates in more than 100 countries. Currently, there are over 3,300 System Users registered. The ISCC Association has since its establishment grown from 20 founding members to more than 100 members.

ISCC Timeline



At present, ISCC has issued more than 20,000 certificates in more than 100 countries.



Organisational Structure of ISCC

The **ISCC Association** (ISCC e.V.) is the legally registered body responsible for governing the overall ISCC system. Natural or legal persons may become members of the ISCC Association if they share the same objectives as ISCC.

The **General Assembly** is the annual meeting of the members held by the ISCC Association, where members of the ISCC Association elect the ISCC Board and discuss and decide on strategically important matters. To ensure equal representation of interests, the ISCC Board is composed of two representatives for each of the stakeholder groups "Biomass Producers and Processors", "Trade, Logistics and other System Users" and "NGOs (Non-Governmental Organisations), Social Sector, Science and Research, Public Sector".

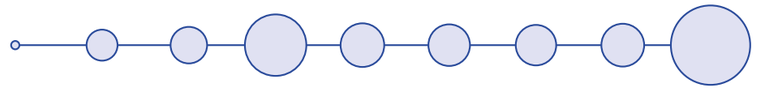
The **ISCC Board** may initiate and establish **Stakeholder Committees** to support ISCC in the handling of specific topics and to facilitate the regional and technical stakeholder dialogue. Members of the ISCC Association, ISCC System Users, cooperating Certification Bodies, and other stakeholders may participate in Stakeholder Committees. Within the framework of a Stakeholder Committee, working groups can be established to focus and work on specific topics or issues relevant for ISCC. Throughout the years, ISCC has organised 40 meetings with more than 1,700 participants in total. In 2018, more than 460 people attended four regional meetings in Bogotá, Shanghai, Kuala Lumpur and Las Vegas. About 200 participants attended the annual ISCC Global Sustainabiliy Conference.

The day-to-day operations, management and development of the ISCC system are assigned to the **ISCC System GmbH**. Stakeholders of ISCC either have the option to engage with ISCC by becoming members in the ISCC Association, by participating in Stakeholder Committees, the regional and technical stakeholder dialogue, and Working Groups, or by giving feedback to the system through Public Consultation, or directly via email, over the telephone or in person.

An important stakeholder group for ISCC are the **Certification Bodies** (CBs) who cooperate with ISCC and who are responsible for the consistent verification of compliance with the ISCC requirements. CBs cannot become members of the ISCC Association in order to avoid potential conflicts of interest and to maintain their role as independent third parties. Nevertheless, CBs can participate in ISCC's Stakeholder Committees, working groups and other ISCC events. Furthermore, ISCC organises regular meetings specifically convened for the representatives of CBs cooperating with ISCC. The goals of these meetings are to exchange feedback and practical experiences in relation to the daily operation of ISCC, to discuss best practices, to identify and reduce potential risks, and to facilitate improvements of the system. This way, CBs are included in the multi-stakeholder approach of ISCC and can support the implementation of best practices and the continuous improvement of ISCC. Each year, ISCC attempts to organise about two CB meetings for feedback and exchange with an average of approximately 20 participating representatives of CBs per meeting.

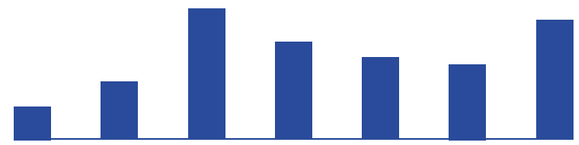
Global, Regional and Technical Stakeholder Meetings

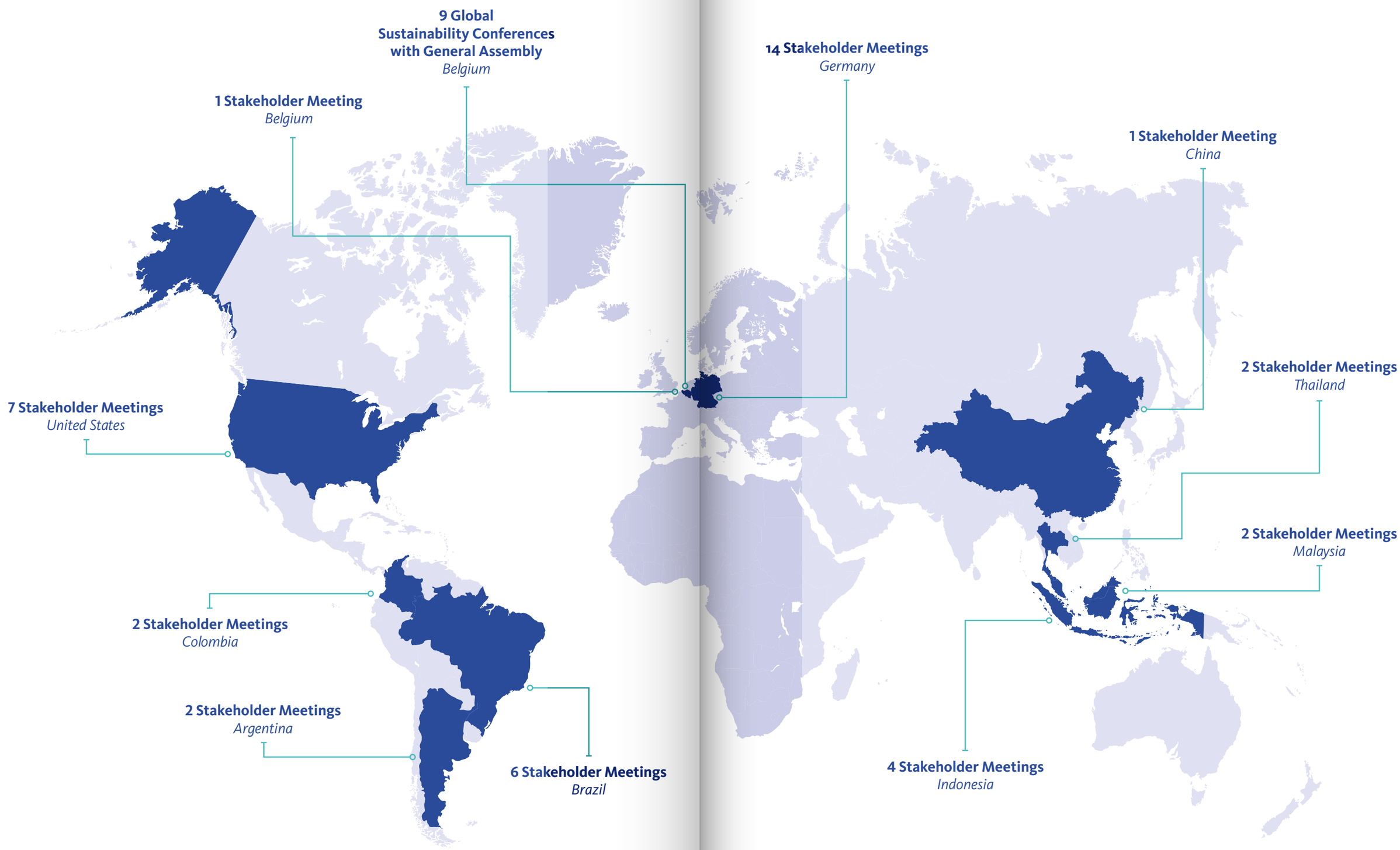
	2010	2011	2012	2013	2014	2015	2016	2017	2018
Meetings	4	7	7	7	5	5	5	4	5
Participants	82	267	312	515	370	353	344	363	661



Certification Bodies Meetings

	2012	2013	2014	2015	2016	2017	2018
Meetings	1	1	3	2	2	2	2
Participants	15	26	59	44	37	34	54




9 Global Sustainability Conferences with General Assembly
Belgium
1 Stakeholder Meeting
Belgium
14 Stakeholder Meetings
Germany
1 Stakeholder Meeting
China
2 Stakeholder Meetings
Thailand
2 Stakeholder Meetings
Malaysia
7 Stakeholder Meetings
United States
2 Stakeholder Meetings
Colombia
2 Stakeholder Meetings
Argentina
6 Stakeholder Meetings
Brazil
4 Stakeholder Meetings
Indonesia

ISCC's Theory of Change

A Theory of Change is a comprehensive definition of the desired change of an organisation with a special focus on the connection between the implemented activities and the desired outcomes, as required by ISEAL *(International Social and Environmental Accreditation and Labelling Alliance)* (ISEAL, 2014). Therefore, a Theory of Change is drafted by first identifying the organisation's vision and intended impacts and then tracing back through long-term, intermediate, and immediate outcomes to the strategies currently in place. ISCC is committed to an environmentally, socially and economically sustainable production and use of biomass and other raw materials, and of the products derived from such raw materials. In order to fulfil this vision, ISCC identifies three main long-term goals developed from the intended impacts:

1. **Environmental Impact:**
   Sustainable use of soil, water and air resources
2. **Social Impact:**
   Securing human, labour and traditional land rights
3. **Economic Impact:**
   Increasing efficiency and transparency along the supply chain

These goals are achieved if ISCC activities result in enhanced social and economic development in the areas controlled by ISCC's System Users, increased productivity and risk management, higher resource use efficiency, protection of *High Conservation Value* (HCV) and *High Carbon Stock* (HCS) areas, as well as GHG emissions reduction.

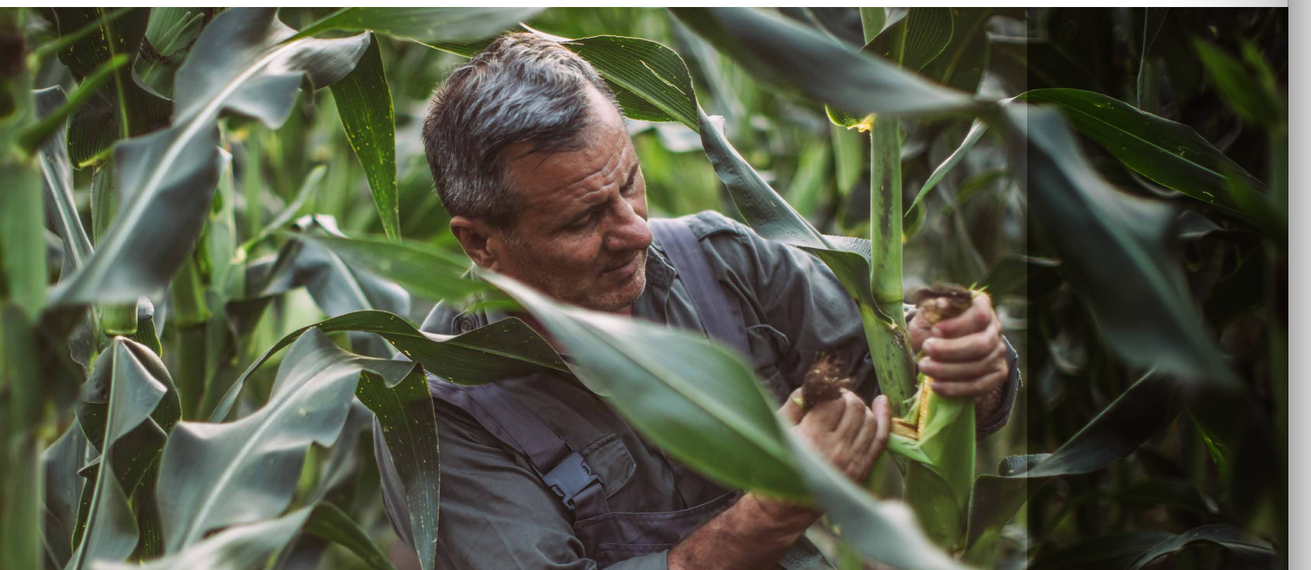
As shown in the figure on the next page, the intended long-term outcomes of increased resource use efficiency and the protection of HCV and HCS areas require sustainable management of natural resources and ecosystems as well as the restriction of LUC after the RED cut-off date of January 2008. Both objectives can be achieved through the implementation of sustainable practices as required by ISCC certification.

To achieve a reduction of GHG emissions, awareness across industries needs to be increased, which is accomplished through the calculation of GHG emissions throughout the supply chain as required by ISCC EU criteria.

In following ISCC's objective to actively support the SDGs, ISCC activities and intended outcomes have been aligned with some of the key actions for promoting the SDGs as identified by the FAO *(Food and Agriculture Organization of the United Nations)* (2018). According to the FAO, food security and agricultural production conditions play a crucial role when it comes to delivering on SDGs and the associated targets. Among other things, connecting smallholders to markets is considered a *"fundamental part of any strategy towards more productive and sustainable agriculture and rural development"*. Additionally, building up producers' knowledge and developing their capacities actively contributes to several SDGs. Other key activities include enhancing soil health and restoring land, protecting water and managing scarcity, mainstreaming biodiversity conservation and protecting ecosystem functions, as well as empowering people and fighting inequalities.

ISCC is aware that some activities may not lead to the intended impacts or result in trade-offs among aspired outputs and outcomes. Such *"unintended effects"*, as it is described by ISEAL, could be for instance the trade-off between the protection of HCV and HCS areas and enhanced social and economic development in the country of operation, as it is currently discussed regarding the Indonesian palm oil production. Being the largest agricultural export good, Indonesia economically benefits from its large-scale palm oil production, bringing stable income to even the poorer rural population (World Growth, 2011). However, this has also been accompanied by deforestation. Through comprehensive capacity building and awareness raising, ISCC strives to enable economic and social benefits without compromising the environment through a sustainable and efficient management of natural resources.

By way of continuous monitoring and evaluation, ISCC is trying to detect such discrepancies well in advance to take active steps to reduce unintended effects and manage trade-offs.



ISCC's Theory of Change

Vision

Environmentally, socially and economically sustainable production and use of biomass and other raw materials, and of the products derived from such raw materials

Intended impacts

- **Environmental Impact** Sustainable use of soil, water and air resources
- **Social Impact** Secure human, labour and traditional land rights
- **Economic Impact** Increased efficiency and transparency along the supply chain

Long-Term Outcomes

- Enhanced **social** and **economic development** in the country of operation
- Improved **productivity** and **risk management**
- Increased **resource use efficiency**
- Protection of **HCV** and **HCS areas**
- Reduced **GHG emissions**

Intermediate Outcomes

- Sustainable and efficient **small-scale** production
- Enhanced **knowledge** and **capacity** among producers
- Improved **working** and **living** conditions for employees
- **Sustainable management** of natural resources and ecosystems
- No **land use change** after January 2008

Outputs

- **Smallholder** integration and **capacity building**
- Implementation of **sustainable practices** on the ground
- Clear **distinction** between sustainable and unsustainable practices
- Improved **transparency** and **traceability** of global supply chains
- Increased awareness of **GHG emissions** across industries

Strategies

- Participatory approach for independent **smallholder** groups
- Transparent **certification** of sustainable practices
- Integrity and training programs for **credible verification**
- Continuous monitoring and improvement through **multi-stakeholder dialogue**
- Calculation of **GHG emissions** throughout the supply chain

ISCC's Monitoring and Evaluation System

ISCC is currently developing and implementing a *Monitoring and Evaluation System* (M&E System) that is compliant with the *ISEAL Code of Good Practice* (ISEAL, 2014). Based on the M&E System, ISCC aims to assess its performance on the previously presented ISCC's Theory of Change and the defined relevant outcomes and intended impacts.

Gathering detailed and comparable data for impact assessments is difficult. In order to fill these gaps, a sample-based evaluation of farm audit reports and a survey among auditors have been conducted.

For future reports, ISCC will retrieve more comprehensive information from the recently developed *Audit Procedure System* (APS). APS is an electronic audit tool which further enhances the audit and certification process under ISCC and facilitates and improves digital data collection and evaluation.

In this first report, ISCC focuses on pitching the conceptual framework of the M&E System and disclosing key facts and figures for the years 2017 and 2018.

ISCC has developed the Audit Procedure System (APS), an automated audit procedure for all types of operations. APS is an electronic application simplifying the audit process and contributing to a more efficient audit performance.

APS

Benefits of APS:

CUSTOMIZED
Audit questionnaire is individually adjusted to display only those questions that are relevant for the particular audit

AUTOMATIZED
Audit reports are ready to print, including Summary Audit Report as well as the non-conformity list

EFFECTIVE
APS leads the auditor through each question to be answered and hence ensures a complete execution of the audit

FLEXIBLE
Multiple auditors can contribute to the same audit

EFFICIENT
Certification bodies can manage an unlimited number of system users, audits and sample audits with one tool

TRANSPARENT
APS data is generated to create more transparency regarding impact on the ground

ISCC's Monitoring and Evaluation System

Intended Impacts

Sustainable handling of soil, water and air resources. Our impact on soil, water and air resources is monitored based on the implementation frequency and effects of corrective measures (p. 40f.), and on the feedback from Certification Bodies, p.42f.

Secure human, labour and traditional land rights. Our impact on human, labour and land rights is based on the implementation frequency and effects of corrective measures (p. 40f.), and on the feedback from Certification Bodies, p.42f.

Increased efficiency and transparency along the supply chain. Our impact on efficiency and transparency is reported based on the amount of non-conformities within the section "Mass Balance & Traceability" in the context of the ISCC Integrity Program (p. 26) and on the feedback from Certification Bodies, p.42f.

Long-Term Outcomes

Enhanced social and economic development. Our impact on the social and economic development on-site is reviewed based on the implementation frequency and effects of corrective measures, p. 40f.

Improved productivity and risk management. Our impact on the productivity and risk management of the farm and plantation owners is reported based on the feedbacks from Certification Bodies, p.42f.

Increased resource use efficiency. Our impact on resource use efficiency is monitored based on the implementation frequency and effects of corrective measures, p. 40f.

Protection of HCV and HCS areas. Our impact on the protection of HCV and HCS areas is evaluated based on the ranges of certified area per First Gathering Point, p. 34

Reduced GHG emissions. Our impact on the reduction of GHG emissions is measured based on the trend of using "Actual Values" for GHG emission calculation, p. 24

Intermediate Outcomes

Enhanced knowledge and capacity. Our impact on the knowledge and capacity of farm and plantation owners is monitored based on the amount of voluntary corrective measures implemented, p. 40f.

Improved working and living conditions. Our impact on the working and living conditions of employees is evaluated based on the implementation frequency and effects of corrective measures, p. 40f.

Sustainable management of natural resources and ecosystems. Our impact on natural resources and ecosystems is measured based on the amount of non-conformities and the effects of corrective measures, p. 40f.

No land use change after January 2008. Our impact on deforestation and other land use changes is approached based on the ranges of certified area per First Gathering Point, p. 34

Outputs

Smallholder integration. ISH certification concept is reviewed on p. 28

Implementation of sustainable practices and clear distinction from unsustainable practices. Our impact on sustainable practices on farms and plantations is reported based on the implementation frequency and effects of corrective measures (p. 40f.), and on the feedback from Certification Bodies, p.42f.

Traceability of supply chains. Our impact on the traceability of supply chains is reported based on the amount of non-conformities within the section "Mass Balance & Traceability" in the context of the ISCC Integrity Program, p. 24

Awareness of GHG emissions. Our impact on the awareness of GHG emissions is monitored based on the participation in GHG trainings, p. 27


Copernicus Sentinel data of Manitoba, Canada


Copernicus Sentinel data of Ruanda

5
Our Work

ISCC is committed to the environmentally, socially and economically sustainable production of biomass and products derived from biomass, which implies specific certification requirements. The ISCC Sustainability Requirements are divided into six principles and apply to farms and plantations that produce sustainable biomass under ISCC:

For more information, please read our System Document 202: **Sustainability Requirements**

Principle 1:
Protection of Land with High Biodiversity Value or High Carbon Stock

Principle 2:
Environmentally Responsible Production to Protect Soil, Water and Air

Principle 3:
Safe Working Conditions

Principle 4:
Compliance with Human, Labour and Land Rights

Principle 5:
Compliance with Laws and International Treaties

Principle 6:
Good Management Practices and Continuous Improvement

Major and Minor Musts

These requirements are categorized as Major and Minor Musts. All Major Musts and at least 60% of the Minor Musts must be fulfilled to comply with the ISCC Standard. Non-Conformities are the non-fulfilment of ISCC requirements by a System User. Before a certificate can be issued, existing non-conformities must be corrected, either during the audit or subsequently. Proof of corrections and missing documents must be made available to the Certification Body within 40 days after the audit. Otherwise, certificate issuance is not possible, and compliance must be verified in an additional audit. Principle 1 requirements are all Major Musts, which is why violations of this principle can never be subject to corrective measures.

Corrective Measures

5.1 Traceability & Chain of Custody

For more information, please read our System Document 203: **Traceability and Chain of Custody**

Every element of a supply chain must provide evidence of compliance with the sustainability criteria of the RED and the FQD. This is obtained through the individual certification of every supply chain element. To ensure that all of the relevant product properties and related sustainability characteristics are forwarded through the supply chain to the quota-obligated party, adequate traceability and chain of custody measures are required.

According to the International *Organization for Standardization* (ISO), the term traceability describes the ability to identify and trace the origin, distribution, location and application of products and materials through supply chains. Chain of Custody, on the other hand, is a general term for making a connection between the sustainability claims of economic operators along the value chain.

The combination of both traceability and chain of custody requirements ensures that the physical flow of materials can be traced back and forth throughout the supply chain, which guarantees the integrity of sustainability statements. This also ensures that sustainability characteristics can be assigned to individual consignments of material, and that the amount of sustainable material withdrawn at any stage of the supply chain does not exceed the amount of sustainable material supplied (ISCC, 2016c). There are two options to document the chain of custody according to the requirements of the RED:

Mass Balance

The **Mass Balance** methodology allows the physical mix of sustainable and non-sustainable products on every stage of the value chain. Although the product loses its individual properties, the balance of quantities is fully traceable throughout the whole supply chain. The specific properties of sustainable material are determined via bookkeeping. This requires calculation and frequent monitoring of the mass balance calculation.

Physical Segregation

Physical Segregation ensures that sustainable and non-sustainable material is kept physically separated throughout the supply chain. There are two types of physical segregation:

- **Identity Preservation:** Sustainable materials with different sustainability characteristics (e.g. origin of raw material, GHG emissions) must be kept physically separate throughout the supply chain
- **Bulk Commodity:** The physical mix of sustainable materials with differing sustainability characteristics is allowed throughout the supply chain

5.2 Reduction of Greenhouse Gas Emissions

For more information, please read our System Document 205: **Greenhouse Gas Emissions**

Following the requirements of the RED and the FQD, ISCC requires a minimum level of GHG savings for final biofuels. The requirements for GHG emissions apply to all relevant supply chain elements from raw materials production to distribution of the final product, including cultivation, collection and conversion processes, as well as the transport and distribution of intermediate and final products (ISCC, 2016d).

Based on the requirements of the RED, ISCC allows different options for GHG information provision:

1. Use of **total default values** of the RED
2. Use of **disaggregated default values** of the RED
3. Use of **actual values** calculated based on the methodology according to the RED or use of **NUTS2 / NUTS2-equivalent values** as recognized by the EC

There are still more economic operators choosing default over actual values for GHG emission calculation. However, the number of certificate holders using actual values increased by 37% since 2015, while the use of default values increased by only 28%. This trend indicates an increasing awareness of the importance of GHG emission reduction among the ISCC System Users.

Amount of Certificates based on Actual Values

2015	2016	2017	2018
758	856	1046	1198

5.3 Risk Assessment and Land Use Change Verification

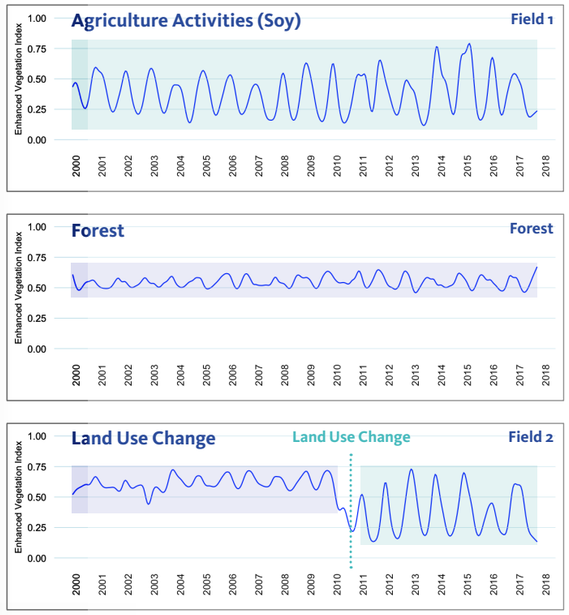
For more information, please read our System Document 204: **Audit Requirements and Risk Management**

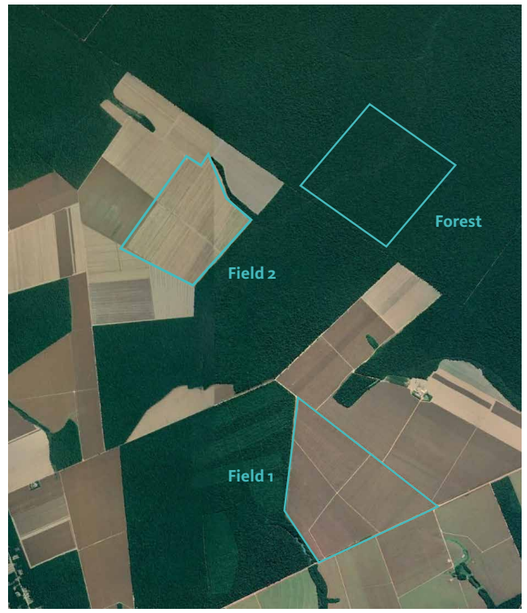
Risk assessment is an integral part of the quality management of the ISCC system and consists of the identification, evaluation and classification of risk.

Before farms or plantations are audited, a risk assessment must be conducted to determine the risk of non-conformity with the ISCC sustainability requirements, especially considering the risk of violations of ISCC Principle 1. This means that it must be assessed if a farm or plantation is located within the proximity of areas where the cultivation of biomass is prohibited under ISCC. The results can be used to determine the sample size of group certification audits and to adjust the intensity and focus of the audit based on the identified risk hot spots. The risk of non-conformity should be assessed with appropriate and reliable databases or remote sensing tools, allowing for a meaningful and well-balanced result for the respective region.

One of the innovative tools that ISCC is using to conduct risk assessments is GRAS. GRAS stands for Global Risk Assessment Services and has been developed with the support of the *German Federal Ministry for Food and Agriculture* (BMEL – *Bundesministerium für Ernährung und Landwirtschaft*) through its Agency for Renewable Resources (FNR – Fachagentur Nachwachsende Rohstoffe). GRAS is based on the latest remote sensing technology and more than 40 different databases providing information about biodiversity and carbon stocks. GRAS allows for multi-step analyses from sourcing area level down to single farms and plantations.

On farm and plantation level, the assessment focuses on a detailed land use change verification. Based on the *Enhanced Vegetation Index* (EVI), GRAS is able to detect vegetation cover. Studying the EVI time series from 2000 to present, GRAS users can distinguish different types of green cover, understand the land use history, and most importantly determine the type and exact point in time of the detected LUC (GRAS, 2019a). The land use change verification is often used in the context of the ISCC Integrity Program, which will be explained in more detail in the next chapter.





Source: GRAS Global Risk Assessment Services GmbH / For more information, please click **here**

For more information, please read our System Document 102: **Governance**

5.4 Integrity Program

Certification Bodies and System Users are frequently subject to independent audits conducted by ISCC in the framework of the ISCC *Integrity Program*. The ISCC Integrity Program aims to ensure a consistent, objective and reliable audit and certification process on a global basis and is an essential part of the continuous improvement process of the system. ISCC Integrity Assessments are planned randomly or risk-based, particularly following risk evaluations, complaints or reports of non-conformity or fraud. Integrity Assessments are conducted by ISCC Integrity Auditors and can take place in any country where CBs carry out audits in the framework of ISCC. The ISCC Integrity Auditors must be independent and free of any conflicts of interest. They work on behalf of ISCC and are not allowed to work for CBs cooperating with ISCC at the same time. Integrity Assessments can be conducted at the CB's head office or at System Users certified by the CB. Integrity Assessments of ISCC System Users are full audits of all ISCC requirements. When ISCC schedules an Integrity Assessment, the participation of the System Users is mandatory (ISCC, 2016a).

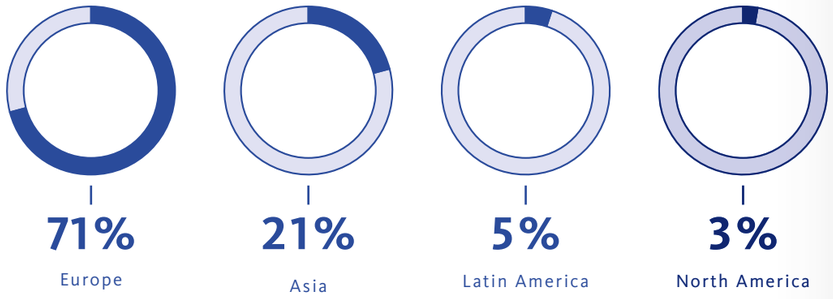
Before the assessment takes place, the GRAS tool is used to analyse if LUC has taken place on farms or plantations of the System User. This information is subsequently taken into account by the Integrity Auditor in the field to focus on risk hotspots and detect non-conformities or violations of ISCC Principle 1.

In 2018, a total of 66 Integrity Assessments has been conducted in Europe, Asia, North and Latin America. The majority of non-conformities have been detected in the section of mass balance and traceability (61%). As a result of the Integrity Assessments in 2018, one *warning* and two *yellow cards* have been issued to the concerned CBs. Additionally, five certificates have been withdrawn and seven companies have been suspended from re-certification.

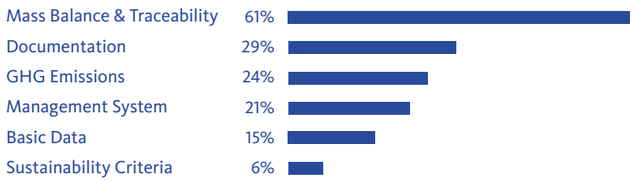
Integrity Audits per Year

2011	2012	2013	2014	2015	2016	2017	2018
1	4	3	28	74	64	67	66

Integrity Program 2018: Share of Integrity Audits across Continents



Integrity Program 2018: Non-Conformities*



*Percentages refer to how often non-conformities for the specific category have been detected. As there can be several non-conformities in one audit, the numbers do not sum up to 100%.

5.5 Training & Capacity Building

Trainings play a crucial role in the quality and risk management at ISCC as they are designed to safeguard correct and complete audit performances by the CBs and a proper implementation of the ISCC requirements by the system users.

ISCC offers regular three-day *Basic Trainings*, which are open to all interested parties and cover all aspects of the ISCC system. The participation in such a basic training is mandatory for all ISCC auditors before they may conduct an audit. In 2018, ISCC organised five basic trainings with 309 participants. Since 2017, the basic trainings also include the trainings for the ISCC PLUS scheme, which were conducted separately between 2014 and 2016. ISCC also established training courses that focus on specific topics that are crucial for sustainability certification, such as GHG emission calculations, land use assessment and waste and residues. In 2018, ISCC conducted one GHG Training with 33 participants. The first GHG training was offered in April 2014 and was followed by three others in the same year. Assumingly due to the GHG quota that was being introduced in Germany in 2015, the sessions in 2014 showed the highest attendance with an average of more than 46 participants per training. Since the start of its operations in 2010, ISCC has conducted a total of 70 trainings in more than 20 cities with almost 3,000 participants.

The integration of smallholders in certification systems is an important aspect to target global sustainable development, as adequate training and capacity building will enhance financial resources and mitigate social issues, which will complement environmental protection in the long run. This is why ISCC, in cooperation with the *Netherlands Development Organisation SNV*, strives to expand the certification of independent smallholders and initiated the *ISCC Smallholder Academy*. For more information, please continue to section 5.7 *Smallholder Integration*.

Trainings

	2010	2011	2012	2013	2014	2015	2016	2017	2018
Basic Trainings	9	6	5	4	4	3	7	7	5
Participants	354	188	194	215	129	83	278	349	309
GHG Trainings					4	2	2	2	1
Participants					186	42	48	87	33
Waste and Residues Trainings				3	1				
Participants				163	24				
Plantation Audit and Land Use Assessment Trainings					1	1			
Participants					44	20			
PLUS Trainings					1	1	1		
Participants					23	22	14		

Training Locations since 2010

Bali
Bangkok
Berlin
Bonn
Bogotá
Buenos Aires
Chicago
Cologne
Hamburg
Hong Kong
Jakarta
Kuala Lumpur
Las Vegas
Miami
Palma de Mallorca
Penang Island
Prague
Rio de Janeiro
Sao Paulo
Shanghai
Warsaw

5.6 Transparency

Transparent provision of information is a precondition for ISCC to offer a high-level sustainability certification system that is feasible, secure and credible.

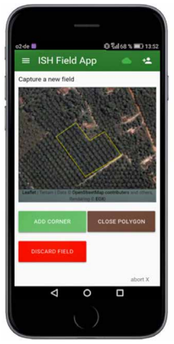
ISCC introduced publicly available summary audit reports in 2017.

Having been developed in a multi-stakeholder dialogue, the system development is still guided today by stakeholders in a well-balanced and transparent continuous improvement process. Along with the General Assembly and the Global Sustainability Conference, which both take place at the beginning of each year, ISCC offers many more multi-stakeholder events, ranging from Stakeholder Committees over workshops and webinars to informational events and conferences. All newly developed system documents or fundamental changes are also made subject to public consultation before being implemented.

As another crucial measure to further enhance the system's transparency, ISCC introduced publicly available summary audit reports for all ISCC System Users. A template for these reports was developed in 2016, based on a decision of the General Assembly. The members agreed to set up a *"Working Group Transparency"* with the objective to elaborate a template for a summary audit report to deliver increased transparency of ISCC whilst ensuring the need to protect sensitive internal company information. 20 members of the ISCC Association representing all stakeholder groups participated in the working group and provided their input to compile a proposal for the summary audit report. The proposal was shared with the ISCC Association Board and all other ISCC Association Members before the final report was presented at the General Assembly in 2017. Certified ISCC System Users could choose to publish the audit reports on a voluntary basis if their audit was conducted before 16 October 2017, however for all audits conducted after 16 October 2017 and onwards, the report must be compiled and published on the ISCC website. The website contains a section with all certification holders and related relevant information available for the public (ISCC, 2017a).

5.7 Smallholder Integration

The ISH Field App enables an automatic compliance verification of smallholder fields with ISCC Principle 1.



Currently, the majority of the world's farms are managed by ISH. Altogether those small farms operate about one tenth of the world's agricultural land. Regarding the controversial oil palm cultivation, small farms even account for an estimated 40% of the total acreage. An investment in family-run agriculture provides an opportunity to enhance rural development; however, small-scale farming can also lead to deforestation, biodiversity loss and social issues due to a lack of knowledge and financial resources.

ISCC aims to mitigate sustainability and deforestation risks through capacity building, GAP training and improved access to capital. To achieve these outcomes, ISCC develops innovative approaches and provides valuable tools and trainings that enable a more effective but less costly certification process, making smallholder certification possible.

For instance, ISCC, in cooperation with several partners, has created a comprehensive ISH online training in the framework of the *ISCC Smallholder Academy*. The training is open for all interested parties and can be conducted from any location at any time. Six chapters, each composed of an explanatory video, a downloadable section and a test, outline the regulatory framework conditions and the structure of the ISH certification and explain relevant tools (ISCC, 2019a).

One important tool is the *ISH Field App*, which has been developed by GRAS and which supports feasible and credible smallholder certification processes by enabling the efficient management, analysis, and visualization of smallholder data. For instance, it allows to capture the field's polygons directly onsite and subsequently upload the collected outlines to the GRAS Tool. In the tool, the uploaded data can be visualized and managed and the compliance with ISCC Principle 1 can automatically be verified for each individual field. In October 2018, the first training took place in Indonesia (GRAS, 2019b).

First ISH Field App training in Indonesia in October 2018

5.8 Supporting Global Sustainable Development

For more information, please read our **Letter of Commitment** and **Communication on Engagement**

Since March 2016, ISCC is a participant of the UN Global Compact, a non-binding UN pact of approximately 10,000 companies worldwide, committed to support the ten principles of the UN Global Compact with respect to human rights, labour, environment and anti-corruption (United Nations, 2019).

In 2015, the Member Countries of the United Nations implemented the 2030 Agenda for Sustainable Development introducing 17 Sustainable Development Goals (SDGs) to foster synergetic activities of governments and agencies, institutions as well as companies and individuals on a global level. ISCC actively supports many of the SDGs by aligning the certification requirements to the associated targets and by endorsing and implementing sustainable projects. For instance, ISCC partners with the WWF, Welthungerhilfe (*German World Hunger Aid*) and ZEF (*Zentrum für Entwicklungsforschung - Center for Development Research*) to promote the *Food Security Standard* (ISCC, 2019b) and with *AahrusKarlsham* to support women in the Shea industry (ISCC, 2017b). As Shea is mostly collected by women, this project is an interesting option to improve their empowerment and incomes of their families as also micro credits, pre-finance, logistical support or training are provided to the workers.

ISCC SUPPORTS UN SUSTAINABLE DEVELOPMENT GOALS

	Targets	ISCC Contribution
I No Poverty	**Ensure sustainable access to basic services**	**ISCC Principle 4:** • Farm/plantation residents have access to basic services
	Implement fair labour conditions based on equality principles	**ISCC Principle 4:** • All workers are to be provided with fair legal contracts • Employment conditions comply with equality principles • A living wage is paid which meets at least legal or industry minimum standards
II Zero Hunger	**Ensure sustainable access to sufficient and nutritious food**	**ISCC Principle 4:** • Biomass production does not impair food security
		In 2018, ISCC became a partner of the Food Security Standard (FSS) project by WWF, Welthungerhilfe and ZEF with the aim to identify suitable pathways to consider security in agricultural production in developing countries and thus, stop hunger
III Good Health and Well-Being	**Ensure secure and consistent access to health care**	**ISCC Principle 4:** • Farm/plantation residents have access to basic services
	Reduce the risk of water, soil and air contamination	**ISCC Principle 2:** • Compliance with national and local laws and regulations relevant to soil contamination and depletion of water sources, water quality, air emissions and burning practices is required
	Ensure safe working conditions and health education	**ISCC Principle 3:** • All workers received adequate health and safety training and have been instructed according to the risk assessment • Workers are equipped with suitable protective clothing • Potential hazards are clearly identified • Accident procedures and equipment are available • There are facilities to deal with accidental operator contamination

IV Quality Education	**Ensure access to quality school education for all children, regardless of race, colour, sex, religion, political opinion, nationality, social origin or other distinguishing characteristics**	**ISCC Principle 4:** • All children living on the farm/plantation have access to quality primary school education • There shall be no indication of discrimination (distinction, exclusion or preference) practiced that denies or impairs equality of opportunity, conditions or treatment based on individual characteristics and group membership or association • Employment conditions comply with equality principles
V Gender Equality	**Promote gender equality and empowerment of all women and girls**	**ISCC Principle 4:** • There is no discrimination at the farm or plantation • Employment conditions comply with equality principles
		In late 2016, ISCC started a cooperation with AahrusKarlsham (AAK) and Loders Croklaan to support women in the Shea industry in Africa for accessing new markets and become more independent
	Eliminate all forms of violence	**ISCC Principle 4:** • The company shall not engage in or tolerate the use of corporal punishment, mental or physical coercion, verbal or physical abuse or sexual harassment or any kind of intimidation of workers. No harsh or inhumane treatment is permitted
VI Clean Water and Sanitation	**Achieve universal and equitable access to safe and affordable drinking water for all**	**ISCC Principle 4:** • All people on the farm/plantation must have access to safe drinking water
	Achieve access to adequate and equitable sanitation and hygiene for all	**ISCC Principle 4:** • All people on the farm/plantation must have access to hygienic toilet and hand-washing facilities
	Improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials	**ISCC Principle 2:** • Care must be taken not to contaminate the surface and ground water • The use of raw sewage sludge is not allowed. Any raw sewage sludge must undergo treatment before it can be used
	Substantially increase water-use efficiency across all sectors	**ISCC Principle 2:** • Irrigation with anything other than rainwater is only allowed with a permit from the responsible authority • Irrigation water should only be abstracted in a way that recharge rates compensate water abstraction

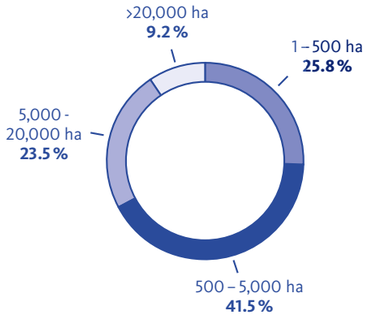
6
Our Impact

Beyond the continuous development and enhancement of the system standard, ISCC strives to increase its impact through extended outreach activities as well as system expansion.

At present, ISCC has issued more than 20,000 certificates – thereof 3502 in 2018. The certified companies in 2018 are located in about 100 countries and range from farms and plantations, and *First Gathering Points* (FGPs) for agricultural materials to *Points of Origin* (PoO) and *Collecting Points* (CP) for waste and residue feedstocks to different kinds of processing units (i.a. biodiesel, bioethanol and biogas plants) as well as diverse set-ups for trading and logistic activities (traders, warehouses, logistic centers). The largest number of ISCC certificates in 2018 have been issued in Spain (9%), followed by Indonesia (7%) and Hungary (6%). Most common scopes are traders (54%), CPs (34%), FGPs (28%) and diverse kinds of processing plants (28%). Between August 2017 and August 2018, more than 41% of all certificates of FGPs covered areas between 500 and 5,000 hectares. Approximately 26% have collection areas below 500 hectares and the remaining 33% have been issued for FGPs collecting from areas larger than 5,000 hectares. The largest certified cultivation areas for agricultural and forestry raw materials in 2017 refer to rapeseed/canola, oil palm fresh fruit bunches (FFB) and corn/maize, while the most common certified waste and residues were used cooking oil (UCO), animal fat and starch slurry (see p. 36). The certification of waste and processing residues is a vital factor when it comes to the impact of ISCC, as it actively contributes to the transition towards a circular economy and aims at reducing threats to food security. ISCC is continuously working on expanding the raw material base from waste and residues by conducting pilot projects with innovative companies across the globe. As an example, please read the case study about "Chewing the Monster Fatberg" in Chapter 6.3.

Hand in hand with the expansion of the ISCC certification, the ISCC association is growing as well. In the founding year 2010, the association counted 20 members, which has since more than doubled, tallying 106 members as of December 2018. The members come from 31 countries, approximately 67% from Europe, 16% from Asia and Oceania, 16% from the American continent and 1% from Africa. In 2018, 72% of the members represented the private sector, 22% worked for governmental and non-governmental organisations while another 22% came from Research & Development. The remaining 6% of the members were individuals. The association members meet annually at the General Assembly after the annual Global Sustainability Conference in Brussels. The conference is organised by ISCC and was attended by over 200 participants in 2018.

Certified agricultural areas of FGPs (August 2017 – August 2018)



Besides conducting trainings and organizing global and regional stakeholder meetings, ISCC also seeks to raise awareness by attending and contributing to numerous conferences in various markets all around the world. In 2018, ISCC gave talks at more than 20 conferences; among others at the *Alternative Fuel Symposium* in Singapore, at the *European Biopolymer Summit* in Düsseldorf, and the *Sustainable Oils & Fats International Congress* in Kuala Lumpur.

When ISCC began its operation back in 2010, there was only little awareness about the importance of ecologically, economically and socially sustainable production that aimed at going beyond the minimum legal requirements. Over the years, ISCC generated awareness and has persuaded many companies to initiate change towards high sustainability standards. Through extensive training programs and customized workshops on the ground, ISCC brings knowledge and capacity to all types of economic operators along the value chain in various countries on a continuous basis. Increased awareness about the need to reduce GHG emissions has been a major driver in the bioenergy field. While in the beginning there was only little knowledge on the impact of GHG emissions and how GHG savings can be achieved, ISCC System Users are nowadays well-versed in analysing their energy balances and in taking actions to reduce GHG emissions. This is apparent in a clear trend towards the use of actual values instead of default values, both at processing units and on farms and plantations. The depictions on page 37 represent this development over time that led to continuoulsy increasing GHG savings and reduction of GHG emissions.

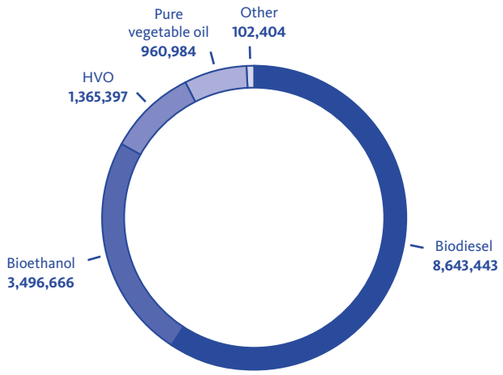
Certificates per Country in 2018

COUNTRY	CERTIFICATES
Afghanistan	1
Albania	2
Andorra	1
Argentina	35
Australia	13
Austria	55
Azerbaijan	1
Bahrain	2
Belarus	9
Belgium	49
Benin	1
Bolivia	1
Bosnia and Herzegovina	5
Brazil	11
Bulgaria	73
Burkina Faso	2
Cambodia	1
Canada	12
Chile	6
China	147
Colombia	32
Costa Rica	5
Croatia	54
Cyprus	9
Czech Republic	163
Denmark	46
Ecuador	1
Egypt	6
Estonia	7
Finland	17
France	89
Gabon	1
Georgia	1
Germany	112
Ghana	4
Gibraltar	1
Greece	112
Guatemala	26
Guernsey	1
Honduras	19
Hong Kong	25
Hungary	207
Iceland	1
India	10
Indonesia	229
Iraq	1
Ireland	11
Israel	1
Italy	208
Japan	12
Jersey	1
Jordan	1
Kazakhstan	1
Korea, Republic of	7
Kuwait	5
Latvia	19
Lebanon	4
Lithuania	52
Luxembourg	4
Macedonia, Republic of	2
Malaysia	165
Malta	2
Mexico	1
Moldova, Republic of	1
Morocco	4
Netherlands	161
Netherlands Antilles	1
New Zealand	2
Nicaragua	2
Norway	9
Oman	1
Pakistan	1
Paraguay	5
Peru	4
Poland	52
Portugal	47
Qatar	2
Romania	133
Russian Federation	39
Saudi Arabia	7
Serbia	21
Singapore	46
Slovakia	92
Slovenia	25
South Africa	6
Spain	303
Sweden	22
Switzerland	52
Taiwan, Province of China	8
Togo	2
Trinidad and Tobago	1
Tunisia	6
Turkey	2
Ukraine	73
United Arab Emirates	15
United Kingdom	156
United States	87
Uruguay	11
Vietnam	1

Amounts of certified raw material and biofuels and bioliquids (in metric tons) shown in the following diagrams were reported to ISCC by ISCC System Users in the framework of the annual reporting to the European Commission. These figures are verified by independent auditors during the annual recertification process of the ISCC System User. The certified cultivation area for crops was calculated by applying yields published by FAO for the respective crop and country for the year 2017 (retrieved on 21.03.2019 at http://www.fao.org/faostat/en/#data/QC). Further information about other certified materials will be published on the ISCC website.

Type of Raw Material (Amount in T)

Biofuels and Bioliquids (Amount in T)



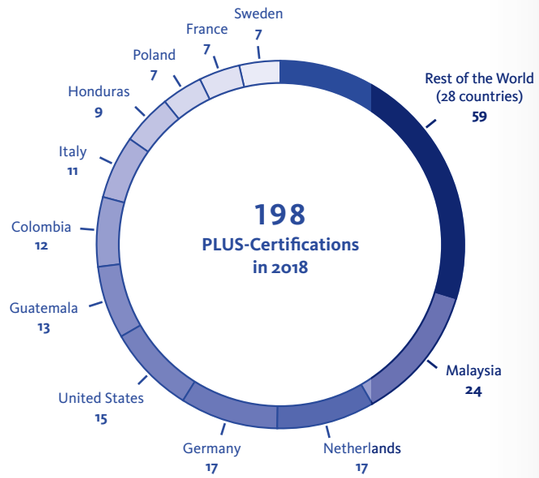
Crops - Certified Cultivation Area (in hectare)

Rapeseed / canola	4,082,438
Oil Palm Fresh Fruit Bunches	1,630,084
Corn / Maize	1,223,040
Wheat	521,821
Sunflower	461,014
Soybean	258,252
Other crops	133,759
Shea nuts	98,123

Rapeseed / Canola – Certified cultivation area (in hectare)

Australia	1,122,342
Ukraine	628,576
Rest of World	566,693
Romania	499,900
Czech Republic	313,389
Hungary	235,322
Canada	226,898
Bulgaria	195,391
Lithuania	176,930
Poland	116,997

ISCC PLUS-Certification (2018)



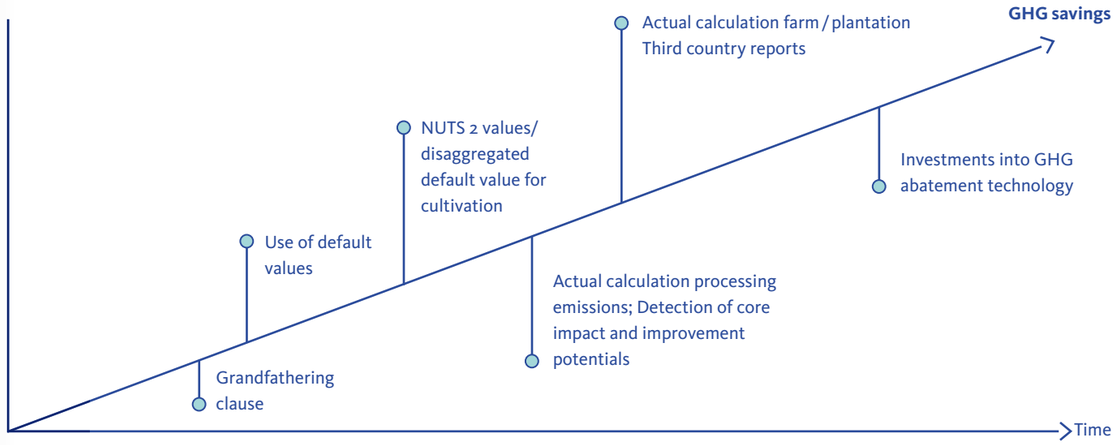
Waste and Residues (Amount in T)

Used cooking oil	2,360,670
Animal fat / tallow	2,009,582
Other waste and residues	906,215
Starch slurry (low grade)	782,920
Grape marc	399,237
Spent bleaching earth	382,047
Manure	247,076
Palm fatty acid distillate	173,106
Empty palm fruit bunches	155,278

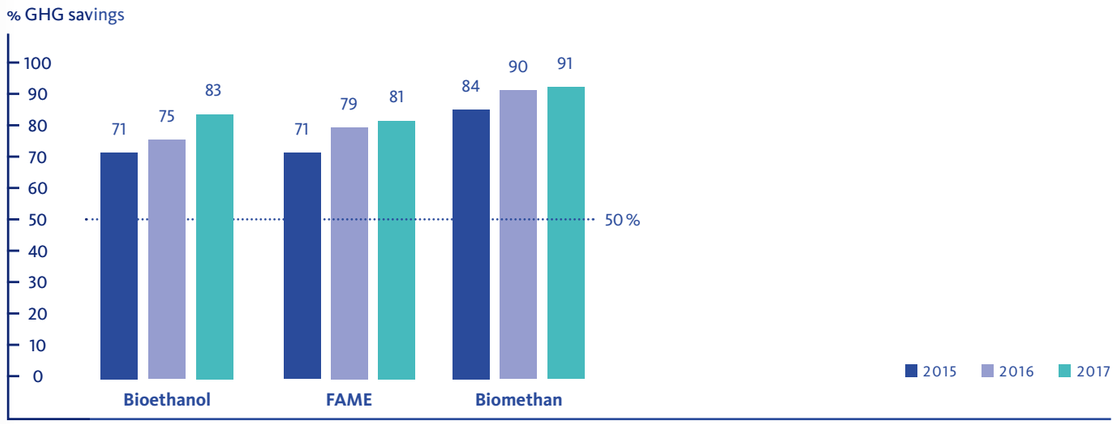
Used cooking oil (Amount in T)

China	523,511
Rest of World	460,735
Greece	246,643
United Kingdom of Great Britain and Northern Ireland	225,337
United States of America	216,912
Indonesia	168,832
Spain	115,947
Italy	110,189
Saudi Arabia	74,429
Netherlands	62,208
Japan	54,554
Australia	53,980
France	47,393

From virtual GHG savings to GHG abatement investments



GHG savings in Germany (similar data available for NL and UK)

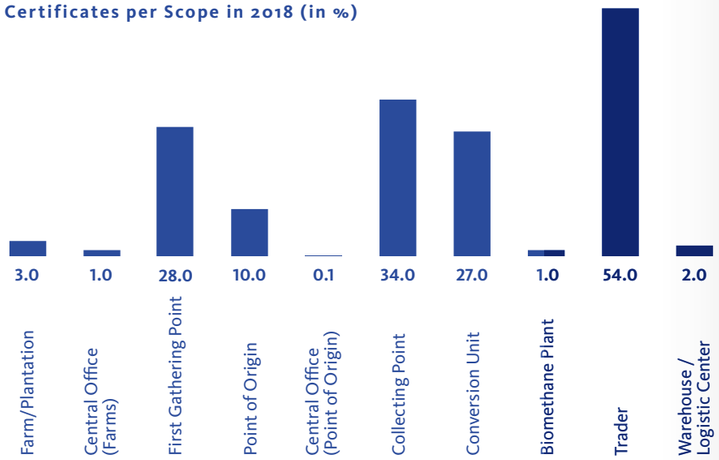


Source: German Federal Office for Agriculture and Food (2018)

ISCC data shows a reduction in processing emissions

Certificates per Year

Certificates per Scope in 2018 (in %)

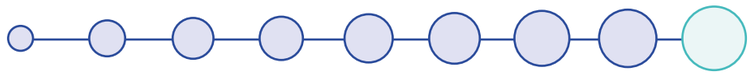


Association Members per Country in 2018

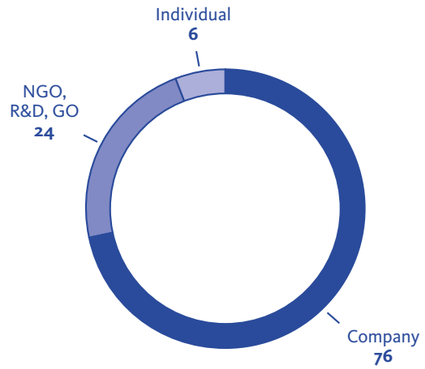
COUNTRY	MEMBERS							
Australia	1	France	1	Italy	5	Slovakia	1
Austria	2	Germany	22	Japan	1	South Africa	1
Belgium	3	Greece	1	Malaysia	5	Spain	6
Canada	3	Guatemala	3	Netherlands	10	Sweden	1
Chile	1	Hong Kong	2	Norway	1	Switzerland	5
Colombia	1	Hungary	1	Poland	2	Taiwan	1
Finland	2	Iceland	1	Portugal	4	United Kingdom	3
		Indonesia	1	Singapore	6	United States	9

Number of Members of the ISCC Association

	2010	2011	2012	2013	2014	2015	2016	2017	2018
Members	20	61	69	73	81	85	92	96	106



Association Members per Sector in 2018



6.1 Sample-Based Evaluation of Farm Audit Reports

For an efficient and sustainable use of natural resources and for secured human, labour and traditional land rights, the impact of ISCC certifications on farms and plantations is of particular importance. The most effective method to measure the impact on farms and plantations is to compare pre- and post-audit conditions. ISCC has analysed the amount of non-conformities in the certification process and the effects of corrective measures on the ground. This will not reveal the complete impact of certification since, prior to the audit, farms and companies may have adjusted their operations according to ISCC requirements by changing processes or investing in improved facilities. As these activities are not observable in the certification process, the subsequent comparison of pre- and post-audit conditions will therefore underestimate the overall positive impact of ISCC certification on companies.

The comparison of pre- and post-audit conditions essentially underestimates the impact of certification.

For the impact assessment of ISCC, a sample of almost 300 farm audit reports has been evaluated. The sample is considered to be representative with appropriate error margins.

The impact was assessed based on the amount of found non-conformities and the effects of corrective measures per country, category (e.g. *"Handling of Waste"*, *"Safe Working Conditions"*, etc.) or single criteria. In order to assess the impact of ISCC in more detail, the effects of corrective measures have been classified into direct and indirect effects:

Direct Effect

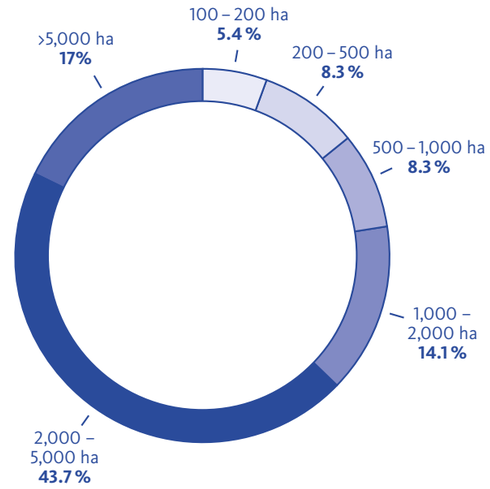
Direct Effect: The correction of the non-conformity has led to physical changes on the farm, to additional training of workers or improved management practices, which are expected to have a direct positive effect at the day of implementation (e.g.: Installation of warning signs, calibration of equipment, training of workers, improvement of storage facilities).

Indirect Effect

Indirect Effect: The correction of the non-conformity has led to changes in documentation and procedures in the form of plans, improved documentation and changed management practices on paper which will not necessarily have a measurable effect directly after implementation (e.g.: signed declarations; documentation of equipment calibration or fertiliser/PPP applications; developed/improved safety plans or complaint forms; appointment of responsible persons for social conflict)

The sample primarily represents large-scale farms, with approximately 43% of the assessed farms covering between 2,000 and 5,000 hectares, while nearly 17% cover more than 5,000 hectares. The remaining 40% are farms of less than 2,000 hectares.

Sample Farm Sizes



Corrective Measures

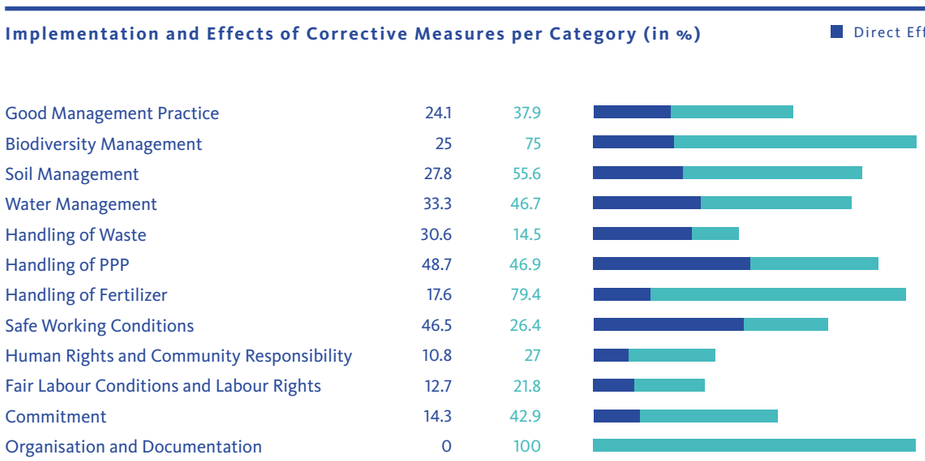
According to the sample-based assessment, a total of 561 non-conformities have been detetcted within the sample audits. While the correction of major non-conformities is mandatory for all System Users, minor non-conformities only need to be corrected if less than 60% of the Minor Musts are fulfilled. In the present sample, all minor non-conformities are beyond the 60% quota, i.e. no System User was required to correct minor non-conformities. Hence all of the identified minor non-conformities have either been voluntarily corrected or not corrected at all. Voluntarily corrected minor non-conformities indicate the impact of ISCC on the awareness and willingness to initiate change among the System Users.

Within the present sample, approximately 50% of all identified minor non-conformities have been voluntarily corrected. The highest share of implementation is observed in the categories of *"Biodiversity Management"*, *"Handling of Plant Protection Products"* and *"Handling of Fertiliser"*.

Implementation of Voluntary Corrective Measures (in %)

With regard to both voluntary and obligatory corrective measures, most of them have been implemented in the categories of *"Biodiversity Management"* and *"Organisation and Documentation"*. In the latter, the implemented corrective measures have exclusively led to indirect effects, i.e. changes in documentation and procedures. The greatest impact in terms of direct effect was observed in the category of *"Handling of PPP"* and *"Safe Working Conditions"*.

Implementation and Effects of Corrective Measures per Category (in %)

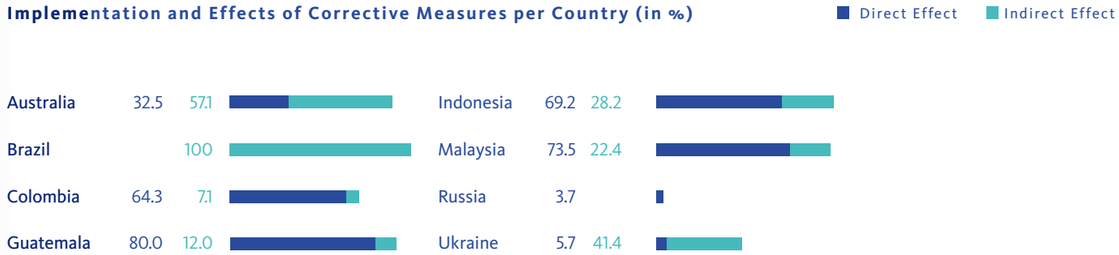


Voluntary corrective measures are most frequently implemented for the minor criterion *"Is it ensured that the re-use of empty plant protection product containers for purposes other than containing and transporting of the identical product is avoided?"*. The most important direct effect occurred at the major criterion *"Is it ensured that appropriate facilities for measuring and mixing plant protection products are available?"*.

Implementation and Effects of Corrective Measures per Criterion (in %)

Corrective measures are most frequently implemented in Brazil, Indonesia, Malaysia and Guatemala. According to the highest share of direct effects, the greatest impact is identified in the countries of Guatemala, Malaysia, Indonesia and Colombia.

Implementation and Effects of Corrective Measures per Country (in %)



6.2 Impact Survey for ISCC Certification Bodies

In autumn 2018, ISCC conducted a 10-question survey for all active CBs about the perceived impact of ISCC on farms and plantations and at traders and processing units along the supply chain. One question also asked for suggestions for improvement of the ISCC system. The response rate was approximately 38%.

1

Where do you see the greatest impact of ISCC certification on farms / plantations?

Regarding the impact on farms and plantations, the auditors mentioned an improved performance in terms of agricultural practices, as well as an increased awareness of the implications of deforestation on the environment. One auditor explicitly stated that ISCC is *"sending a message that deforestation is not tolerated"*. Additionally, farms and plantations are said to improve their organisational structure and documentation through the implementation of ISCC requirements. In South East Asia, the greatest impact being perceived is on health and safety standards and social conditions in general.

2

Where do you see the greatest impact of ISCC certification for traders and processing units along the supply chain?

With regard to the impact on traders and processing units, most auditors reported that the ISCC certification increases traceability and transparency by improved documentation of inputs and outputs and GHG emissions. Furthermore, they noted an improvement in the employees' level of knowledge, due to enhanced training measures and the implementation of a quality management system. One auditor concluded that traders and processing units benefit from ISCC certification through improved business opportunities but reported that ISCC certification also comes with more complicated and time-consuming administration.

3

According to your experience, where do most non-conformities occur?

Approximately 75% of participating auditors stated that most non-conformities occur during the calculation of GHG emissions, while 70% found that the section of documentation and record keeping contain the majority of non-conformities. Traceability and mass balance appear to be the third largest section for the occurrence of non-conformities.

4

Which corrective measures are you demanding most frequently?

Corresponding to the previous question, the survey participants stated that the most frequently requested corrective measures are the updating and correction of documents including information on mass balance, GHG emission calculation and sustainability declarations. The CBs also need to demand more frequent internal training sessions.

5

According to your experience, how often are voluntary corrective measures being implemented?

50% of the participating CBs indicated that voluntary corrective measures are *"often"* being implemented.

6

What are the most common voluntary corrective measures that are being implemented?

The most commonly implemented voluntary corrective measures are related to administration and documentation, health and safety standards as well as to agricultural practices.

7

Are there major improvements recognizable over the time of certification? If yes, could you please specify which kind of improvements?

More than 90% of the participants answered *"Yes"*. These improvements were defined to be within the topics of producer knowledge, documentation, mass balance and GHG emissions calculations. Several auditors also stressed that many companies appeared to be more organised and to have improved internal trainings and control over the course of certification.

8

To what extent could you observe reductions in GHG emissions?

This question lead to two different kinds of answers. The first type was that significant changes were observable over the years and that companies tried to achieve higher reductions every year, and increasingly changed from using default values to actual values. This finding is supported by the ISCC internal database where an increase in the use of actual values has been detected. However, the other kind was that companies only comply with the minimum legislative or market requirements, and that reductions are observable only where they are required by European regulations.

9

According to your experiences, which are the most common measures to reduce GHG emissions?

Participating auditors indicated that companies frequently adapted their production techniques, changed the raw material input to UCO, built a biogas plant on the plantation or optimized the transport to reduce emissions.

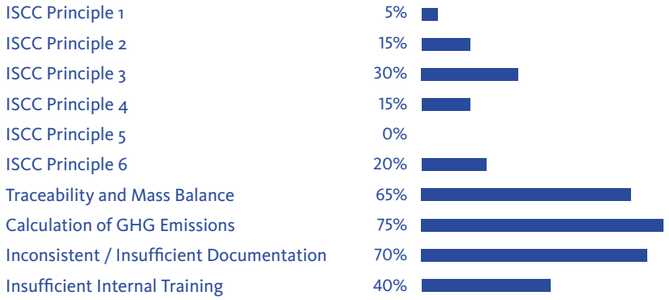
10

Based on your experience, what are your suggestions for improvement of ISCC?

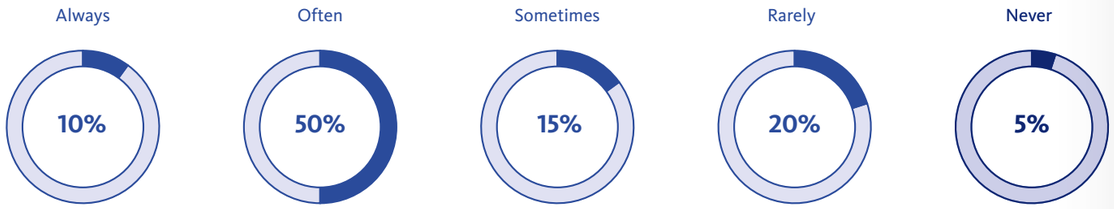
The responses have been collected and categorized as follows:

- *Simplify system documents and audit procedures*
- *Reduce the amount of required documents*
- *Loosen requirements where covered by national legislation*
- *Simplify GHG calculation methodology*
- *Develop and provide a free web-application for GHG calculation*
- *Loosen the "no cherry-picking rule"*
- *Conduct more regional trainings*
- *Make APS more flexible to import basic data from the previous audit*
- *Establish Technical Committees again in Europe at least once a year*
- *Take a clear position on topics that are often in discussion (for example emission factors)*
- *Extend the period of validity of certificates*

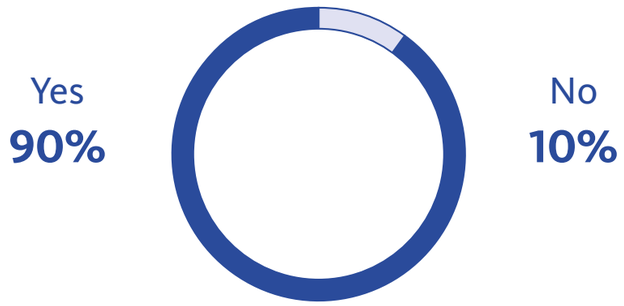
3 According to your experience, where do most non-conformities occur?



5 According to your experience, how often are voluntary corrective measures being implemented?

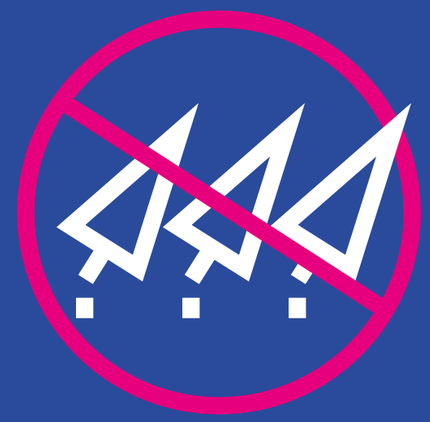


7 Are there major improvements recognizable over the time of certification?



"Because of ISCC requirements, companies try to reach higher levels of GHG emission reduction every year."

"ISCC sends the clear message that deforestation is not tolerated."



6.3 Regional Impact: Europe

Chewing the Monster Fatberg

We don't stop to think about what happens to the leftover cooking fat we pour down our kitchen sinks. But when it arrives into the sewerage system it can create enormous blockages called *"fatbergs"*. They have become so common that a definition has been added to the Oxford English Dictionary, stating that fatbergs are *"a very large mass of solid waste in a sewerage system, consisting especially of congealed fat and personal hygiene products that have been flushed down toilets"*. Argent Energy made the news when it volunteered to turn the largest fatberg ever found into biofuel. A 250-metre long monster weighing 130 tonnes had to be dug out of an east London sewer in September 2017. Some of it was taken to Argent Energy's Ellesmere Port plant in the UK where it was processed to biodiesel. In the ISCC system, fatbergs are classed as *"grease trap fat"*, which is certifiable as a sustainable feedstock for biodiesel. FOG – *Fats, Oils and Grease*, specifically originating in sewage systems and treatment plants, encompass fatbergs. Dickon Posnett, Director of Corporate Affairs at Argent Energy, says, *"a lot of waste fat ends up in sewers and gets carried to sewage treatment plants. We have invested extensively in new treatment plant to cope with this material, as it is a valuable source of renewable fuel. We are the only people in the UK with the facilities to convert the London fatberg into biodiesel, so we stepped in."* The fatberg material was delivered by lorries to the Argent Energy plant, where solids and liquids were separated out and the congealed fat was heated and further cleaned before being turned into FAME *(Fatty Acid Methyl Ester)*, a form of biodiesel which can be blended with mineral oil diesel. The yield of biodiesel from the fatberg is normally between 25% and 40% of the weight. The biodiesel saves over 80% of greenhouse gas emissions compared with normal diesel. Argent Energy has been certified with ISCC since 2011 for conversion of all types of waste oils to biodiesel. Dickon states: *"ISCC, with its clear approach to waste materials, allows us to show customers that our biofuels are sustainably produced with audited greenhouse gas savings."*

The new Argent Energy plant will be able to produce up to 90 million litres (80,000 tonnes) per year of biodiesel from FOG when it is fully operational. This compares to the 700 million litres of biodiesel blended into UK road transport fuel in the year 2016/17. Posnett estimates there could be between 300,000 and 400,000 tonnes of grease and fat in the UK's sewers and water treatment works each year. This means that there is a large untapped potential for renewable transport fuel from this source alone. Innovative technology was developed to cope with the impurities within the FOG. Argent Energy also has the only sites in the UK to use continuous distillation technology to ensure that the quality of the final biodiesel meets European and British Standards. Flushed with success from the fatberg, the company is on the lookout for more hard-to-treat wastes to turn into biofuel. In the past they have used waste mayonnaise, soup and ghee. Their latest endeavour is producing biofuel from waste coffee grounds from shops and restaurants. As Dickon says, *"coffee grounds oil brings its own challenges but at least it smells good"* (ISCC, 2017c).

"ISCC, with its clear approach to waste materials, allows us to show customers that our biofuels are sustainably produced with audited greenhouse gas savings."

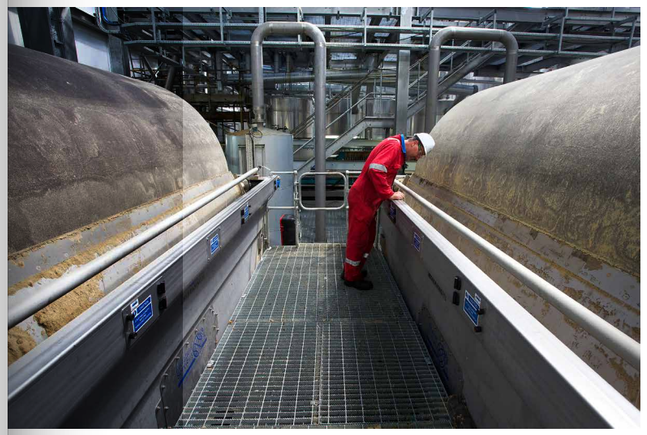
Lantmännen Agroetanol

Lantmännen Agroetanol is a 14-year-old biorefinery located outside Norrköping in Sweden and part of an eco-industrial park where waste products of one company become the raw materials of another. Steam, for instance, is generated from biofuel and taken from the combined power and heating plant. The steam is then used to produce electricity which is subsequently re-fed into the combined power and heating plant. Additionally, the park collects and burns all waste from Norrköping and returns it to the town in form of heat and electricity.

Lantmännen Agroetanol produces bioethanol, protein-rich animal feed and carbon dioxide as their main products, which are subsequently processed into fuel and animal feed. The majority of carbon dioxide emissions from the fermentation process is captured, liquefied, purified and then further processed into carbonic acid by a neighbouring company to re-sell it to the food industry. The very last residuals from the ethanol production process are sent to another neighbouring plant and become biogas for the automotive industry and fertilisers for the local agriculture. (Lantmännen, 2018)

Aiming to continuously increase its contribution to a circular economy, Lantmännen Agroetanol expanded its raw material base from grain to starch-rich residuals from the food industry. The food waste is first unpacked, milled into smaller pieces and then fed into the regular ethanol plant.

ISCC supports traceable and transparent value chains from field to fork and enables the verification of the high GHG emissions savings that Lantmännen Agroetanol continuously achieves. Being certified by ISCC opens new markets and business opportunities for Lantmännen Agroetanol and incentivizes sustainable practices and further GHG emissions savings along the value chain. Bengt Olof Johansson, the Managing Director of Lantmännen Agroetanol states: "When we had to certify, it was very important for us to really get a trustworthy partner with a good market acceptance and a good reputation in general. And that is why we chose to work with ISCC, which since then has been working good for us really." For the future, Lantmännen Agroetanol aims to continue the fruitful cooperation with ISCC and is considering certifying their feed products as well (ISCC, 2015).



The Argent Energy plant in the UK

"ISCC supports traceable and transparent value chains from field to fork."

Collecting protein-rich food waste at the Lantmännen Agroetanol biorefinery in Sweden

6.4 Regional Impact: America

Socially and environmentally sustainable sugar cane in Guatemala

Sugar cane is cultivated throughout Central and South America. Originally native to Southeast Asia, some say it first made its way to the New World with Christopher Columbus in the 15th century. Since then, Guatemala has become the second largest sugar exporter in Latin American and the Caribbean, and the fourth largest exporter worldwide.

Pantaleón, a family owned company, began producing sugar in the mid-19th century on the south coast of Guatemala. Over the years, the company has expanded into Mexico, Honduras, Nicaragua, Brazil, and Chile, producing sugar, ethanol, molasses and renewable energy. Since the beginning, it has strived for high sustainability standards in all aspects of its operations.

The ISCC standard is rapidly gaining recognition in Latin America. There are twenty certified sugar cane operations in the region and over one hundred ISCC certificates for biofuels, feed, food and bio-based products. Claudia Asensio, Head of Sustainability for Pantaleón says *"our team and natural resources are both at the heart of our business. We find the ISCC sustainability principles to be comprehensive and robust, therefore ISCC PLUS certification is one of the vehicles to show our high standards to our customers and stakeholders".*

An absolute ban on deforestation and adherence to social sustainability principles are key parts of ISCC PLUS. Pantaleón has made commitments to social sustainability for both employees and local communities. Each site has its own health clinic to provide primary care services to employees and their families. Its occupational health programs provide preventive measures to thousands of employees in the field each day.

Sugar cane is a thirsty crop and in Guatemala irrigation is needed for successful cultivation. Pantaleón carefully manages water usage and participates in local social dialogue forums on water use, known as *"technical tables"*, with representatives from the local government and domestic users. This dialogue ensures that water abstraction does not damage biodiversity and treats all users fairly. Pantaleón invested over five million dollars in projects to improve water use efficiency in 2016. Waste is also managed sustainably; sugar cane bagasse is used for energy generation on site and other by-products are used as fertilizer or for irrigation. Protection of biodiversity and the conservation of forests are a priority: Pantaleón has reforested over 4,600 hectares of land.

In 1992, the *Pantaleón Foundation* was created to promote the social and economic development of local communities. The Foundation has an array of projects in Guatemala, Nicaragua, Honduras, and Mexico where it invests in education, health, and environmental stewardship. Currently, the Pantaleón Foundation manages four schools within its facilities, two in Guatemala and two in Nicaragua.

Looking ahead, Pantaleón is seeking to adopt the ISCC non-GMO *(Genetically Modified Organism)* add-on. Claudia states *"We are pleased that our ISCC PLUS certification means we also comply with the Sustainable Agriculture Initiative (SAI) Platform at the silver level"*. This wider acceptance of ISCC PLUS opens new markets for certificate holders like Pantaleón and means they can build an even "sweeter" future for their company, employees, and communities (ISCC, 2017d).

"We find the ISCC sustainability principles to be comprehensive and robust, therefore ISCC PLUS certification is one of the vehicles to show our high standards to our customers and stakeholders."

The Pantaleón plant in Guatemala

On-product claim on ISCC certified sugar from the Pantaleón Sugar Mill

6.5 Regional Impact: Africa

She sells Shea

The shea tree grows wild in a belt across Africa south of the Sahara. Mali, Nigeria, Burkina Faso, Ghana, Ivory Coast, Benin and Togo have the highest population of shea trees. These are also some of the poorest and least developed countries in the world. Women have collected the fallen shea nuts for centuries and extracted the oils and other components using traditional techniques, for use in cooking, soap and cosmetics; they sell the surplus to improve their standard of living. Shea butter has been called *"women's gold"* not only for its colour but also because of the income it provides across the continent.

Women all over the world are recognising the benefits of natural cosmetics and an increasing number are choosing traditional plant-derived products in preference to those made from mineral oils. Shea butter is very attractive, not only as an effective skin moisturiser but because it contains antioxidants, which are believed to have anti-ageing properties. It has become increasingly popular with both niche and international brands who use it in skin care products. In order to respond to customers who want their purchase to help people in the developing world whilst protecting forests and natural habitats, these brands need to be sure that their shea is sourced sustainably.

Sustainability certification with ISCC PLUS, a strong and trusted sustainability scheme, provides this assurance. ISCC certification guarantees fully traceable and deforestation-free supply chains, which protect biodiversity and people's rights. ISCC developed a certification approach specifically for shea supply chains. This allows the millions of women collecting shea nuts to sell a certified product to foreign customers, thus securing a sustainable income.

Women in Burkina Faso are being helped by *AarhusKarlsham* (AAK) and Loders Croklaan to access new customers. AAK of Sweden is one of the world's leading producers of speciality vegetable fats, with 20 production facilities in Europe and the Americas and over 3,000 employees. The main business areas of the company cover food ingredients, chocolate and confectionery, dairy, and personal care. AAK, which has a mission to support rural communities, smallholders and small businesses in the agricultural sector, has chosen ISCC for certification of shea kernels. For more than 60 years, AAK has gained extensive knowledge of and experience with this raw material and the local communities in which AAK operates. Henrik Vingaard, AAK's Sourcing & Trading Director says *"shea kernels are a very important and unique raw material for AAK. We work with the women who collect the shea kernels, building capacity in local communities. AAK's work in these areas includes interest-free micro-credits and the formation and teaching of women's groups in villages, and by doing direct business with us, the women have been able to markedly improve their income. ISCC certification shows that our processes have been scrutinized by an outside auditor and gives our customers further assurance".*

The shea kernels gathered by the women are stored in warehouses and then sent by sea to the AAK plant in Aarhus Denmark where the kernels are crushed, and shea butter is extracted. The shea butter is split into liquid and solid oils for different applications. Shea oils supplied by AAK are also used within the chocolate and confectionary business and in many dairy and bakery products.

Assuring that shea kernel collection and its supply chain meets ISCC's high standards requires the skills of an experienced auditor. The certification of the AAK supply chains was carried out by SGS auditors, who went out into the field to hold informal interviews with the women collectors and the small local companies who transport and store the shea kernels. They checked on the pre-finance that AAK gives them for the shea kernels. The opportunity to receive pre-financing, fair prices, logistical support and direct trade with AAK further strengthen the empowerment of the women and village communities.

The women receive training on how to avoid hazards like snake bites that they may face out in the bush. Measures have been taken to improve the first processing step of shea conducted by the women in the villages, and to reduce the risk of boiling burns. More efficient stoves have been built that use less wood and water, and methods are applied to improve the quality of the shea kernels. An auditor said, *"the women explained the practice of collecting shea nuts. This has been part of women's lives in West Africa for centuries as shea trees grow all over the region. Some of the nuts are used locally and the surplus is sold to provide an income for the women."* The demand for natural, plant-based cosmetics is still increasing. AAK has helped the women of West Africa to provide shea butter to large international cosmetic brands and receive proper compensation - because they are worth it (ISCC, 2017b).

"ISCC certification guarantees fully traceable and deforestation-free supply chains, which protect biodiversity and people's rights."

Shea collectors in West Africa

6.6 Regional Impact: Asia

The World's First ISCC Independent Smallholder Certificate

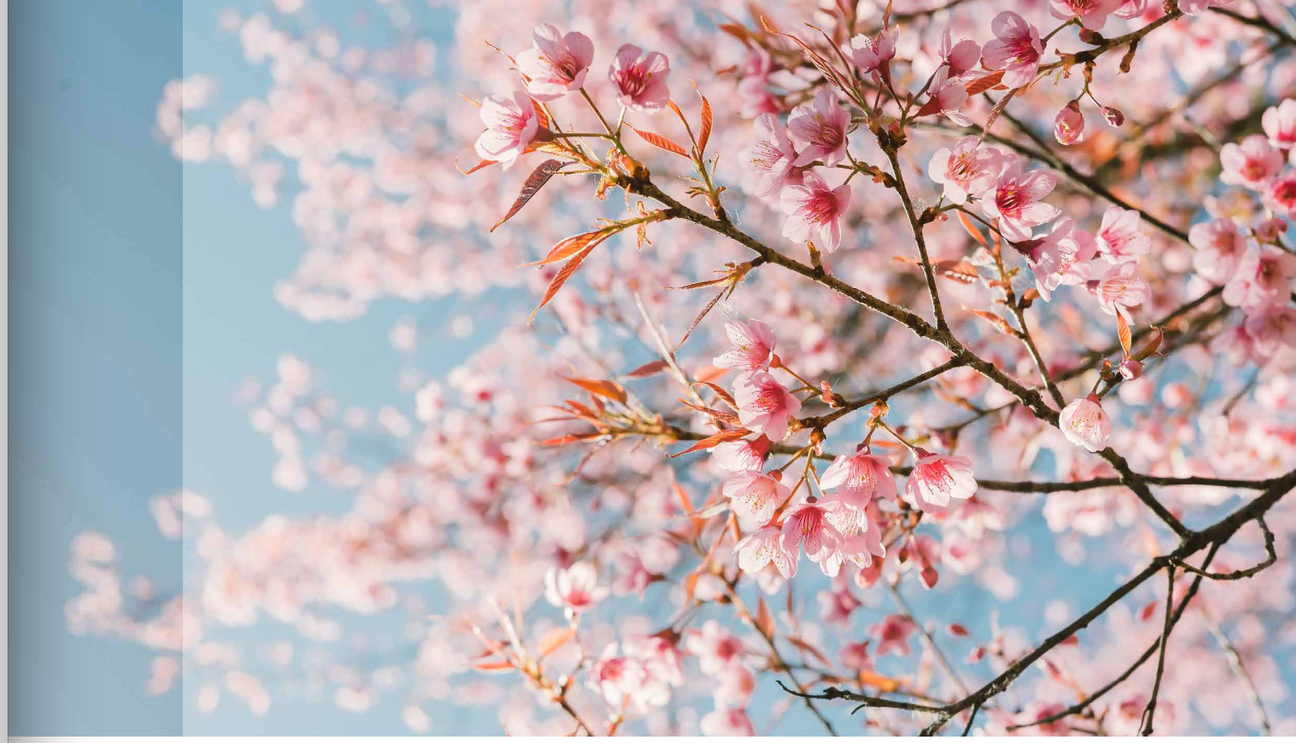
In March 2018 Indonesia has received the very first ISCC certificate for independent smallholders. The certificate is based on an innovative smallholder approach which was developed as part of the *Berbak Green Prosperity Partnership* project co-funded by MCA Indonesia *(Millenium Challenge Account)*. The main goal was to enable smallholders to achieve certification and through this, guarantee that the Fresh Fruit Bunches are fully traceable and do not come from deforested areas. The implementation of the project was facilitated by *Meo Carbon Solutions* and *SNV* Indonesia.

ISCC has developed a completely new certification program elevating the group certification for palm oil smallholders to a new level. This program reduces the burden, risks and costs for independent smallholders without compromising the sustainability requirements. The ISCC certification means higher incomes for the smallholder farmers by enabling them to sell their fully traceable palm oil on the international market at a competitive price and thereby taking away the need to further expand into forested areas.

Andreas Feige, Managing Director of ISCC, commented, *"the certification of independent smallholders brings us closer to the overall goal to contain global deforestation. We hope that many other smallholders will follow."* Hans Smit, SNV's Global Coordinator Palm Oil added: *"This is an important step forward to ensure that independent smallholders can be included in deforestation-free supply chains. Together with ISCC and other partners, we will continue to work to develop this model further and roll out with producers and buyers interested in developing inclusive deforestation-free supply chains"*. Sufyan, Group Certification Manager of the Cooperative Makarti is also convinced that *"ISCC certification is the first step to increase the livelihood of its members. We are proud to be the first independent smallholder group to receive this certificate"*.

"This is an important step forward to ensure that independent smallholders can be included in deforestation-free supply chains."

Smallholders in a palm oil plantation



Japanese cherry blossoms

Japanese Government recognises ISCC

The Japanese government has recognised ISCC certification to verify compliance with the Japanese sustainability requirements for biofuels.

On 17 April 2018, the *Japanese Ministry of Economy, Trade and Industry* (METI) announced a new biofuel mandate for the years 2018 – 2022 in their ordinance *"Criteria for Judgement for Oil Refiners to use Biofuel for the next five years from financial year 2018"* with the aim to improve energy security and to lower overall sourcing costs. The most important change was that METI announced GHG default values for corn-based ethanol from the *United States* (U.S.). Previously, Japan's biofuel policy exclusively provided a default value for ethanol based on Brazilian sugar cane. Furthermore, the GHG emission reduction target for ethanol in the fuel supply chain was raised from 50 % to 55 % compared to fossil fuel.

The ethanol has to fulfil certain sustainability criteria, including the exclusion of land use change and the application of the mass balance approach and traceability in supply chains. As a means to prove compliance with those sustainability criteria, METI allows third party certification and explicitly mentions ISCC as an eligible certification system to proof compliance with the sustainability criteria. For compliance with further requirements, such as effects on food competition and biodiversity, other means than certification can be applied (e.g. contractual agreements).

With ISCC, the Japanese sustainability requirements for U.S.- and Brazil- based ethanol can be efficiently and reliably verified. ISCC is well established in the U.S. with over 400 issued certificates, whereof 70 have been issued for ethanol plants. In Brazil, more than 150 certificates have been issued for the cultivation of sugar cane and the processing into ethanol (ISCC, 2018b).

For more information, please read our Guidance Document ISCC PLUS 201-1: **Guidance for Deliveries of Biofuels to Japan**

7

Lessons learnt

ISCC strives for a continuous improvement of its standard to further develop positive and prevent negative impacts of biomass production and use on a global scale. The Impact Assessment 2018 provides valuable insights into our performance and indicates pathways for further improvement.

Lesson 1:
ISCC raises awareness across countries and industries

Through the regular organisation of global and regional stakeholder dialogues, ISCC's contribution to numerous international conferences of different sectors and intensive outreach activities, ISCC continuously raises awareness on the importance of deforestation-free supply chains, biodiversity conservation and the compliance with human and labour rights. At present, ISCC certifies activities in more than 100 countries in Europe, Asia and Oceania, North and Latin America as well as in Africa.

Lesson 2:
From virtual GHG savings to GHG abatement investments

When ISCC started to operate in 2010, there was only little knowledge about the internal GHG emission balance of operators and very limited capacity for improving their GHG balance. Through continuous training opportunities and high-profile certification requirements, ISCC has significantly increased awareness across countries and industries. As a consequence, many System Users have moved towards the use of actual values in determining their individual GHG balance and they are increasingly investing in GHG abatement technologies to meet the certification criteria of ISCC and to improve their contribution to GHG savings.

Lesson 3:
Corrective measures improve day-to-day operations of farms and plantations

According to the sample-based evaluation of farm audit reports, the request for corrective measures based on detected non-conformities leads to significant improvements in the day-to-day operations of farms and plantations. The evaluation results indicate that approximately 50% of the recommended voluntary corrective measures are implemented. These findings indicate to the conclusion that System Users are often not aware of potential improvements but are willing to implement them once they have been pointed out by the auditor.

Lesson 4:
Growing interest from food, feed and bio-based chemicals markets

Besides the certification of bio-based feedstocks, ISCC has developed a concept for the certification of renewable materials of non-biological origin. For example, companies that process municipal solid wastes, landfill gas or used car tires into valuable products or that capture CO_2 emissions to re-feed it into the production process can get certified under ISCC. Additionally, there has been a growing interest from the food and feed sector, for which ISCC offers the possibility to prove through the certification with the Non-GMO Add-On that the whole supply chain is free of GMO materials.

Lesson 5:
Increasing recognition of ISCC around the world

After the recognition of Germany in 2010, ISCC was recognized by the European Union in 2011 and subsequently re-recognized in 2016. This had led to a leverage effect in other countries outside of Europe, particularly in the light of current global efforts concerning climate policy and biodiversity conservation. In 2017, the Australian state of Queensland officially recognized ISCC to verify the sustainability of biofuels, followed by Japan in 2018. ISCC is continuously working to harmonise requirements for various feedstocks in different parts of the world.

Lesson 6 :
More comprehensive monitoring data is needed in the future

Even though the impact assessment provides some valuable insights into the performance and effectiveness of ISCC, significant gaps in the evidence base have been identified. Hence, not all outputs, outcomes and impacts defined in the ISCC Theory of Change could be quantified, and not all ISEAL Indicators can be applied. In the future, ISCC hopes to be able to solve this issue with APS, which will provide more and readily available data.

ISCC's Theory of Change aims at the further strengthening of the sustainability of supply chains with respect to ecologic, social, as well as economic aspects. ISCC is thus guided by the responsibilities within the framework of the UN's 2030 Agenda for Sustainable Development. This Impact Report 2018 represents the first assessment of ISCC's activities. It shows how ISCC has contributed to bringing sustainability into the business mode of farms, processors, and producers. By expanding from the biofuel certification towards other bioenergy products, non-energy uses of biomass, and to feedstocks from non-biological origin, attaining sustainable supply chains has spread to an increasing number of sectors and countries. Drawing on the insights and results of this report, ISCC will continue to enhance the support for the sustainable management of natural resources and ecosystems, improve labour and living conditions for workers and their families and increase productivity and capacity among producers.

III

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